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1: Agarwal KK, Mukherjee A, St A, Tripathi M, Bal C. Incremental value of single-photon emission computed tomography/computed tomography in the diagnosis of active condylar hyperplasia. Nucl Med Commun. 2017 Jan;38(1):29-34. PubMed PMID: 27763953.

**OBJECTIVE:** To evaluate the incremental value of technetium-99m methylene diphosphonate (Tc-MDP) single-photon emission computed tomography/computed tomography (SPECT/CT) over planar bone scintigraphy (BS) and SPECT for the diagnosis of active condylar hyperplasia (CH).

**PATIENTS AND METHODS:** Data of 21 patients (mean age: 21.9±5.3 years, 10 males, 11 females) who underwent Tc-MDP BS along with regional SPECT/CT for the diagnosis of active CH were retrospectively evaluated. Planar BS, SPECT, and SPECT/CT images were evaluated by two nuclear medicine physician in consensus. Radioactive counts were measured per region of interest and the respective ratios were calculated. A percentage of condylar uptake 55% or higher, generating differences of 10% or more between condyles, was considered to be indicative of active unilateral condylar hyperactivity. Sensitivity, specificity, and positive and negative predictive values were calculated separately for planar BS, SPECT, and SPECT/CT. Clinical/imaging follow-up and histopathology was considered the reference standard.

**RESULTS:** Planar BS, SPECT, and SPECT-CT of 21 patients with suspected CH were retrospectively evaluated. Planar BS was positive in eight patients, of whom six had active CH as the final diagnosis. SPECT was positive in 14 patients, of whom 12 patients had CH. Out of 14 patients who were positive in SPECT, two patients were considered negative in SPECT-CT. The diagnostic accuracy was the lowest for planar BS (47.6%) and the highest for SPECT/CT (85.8%). SPECT/CT and SPECT had similar sensitivity (80%), whereas SPECT-CT had the highest specificity (100%).

**CONCLUSION:** SPECT/CT is superior to planar BS and SPECT for the diagnosis of active CH.

DOI: 10.1097/MNM.0000000000000607

PMID: 27763953 [Indexed for MEDLINE]

2: Agrawal P, Gaba S, Das S, Singh R, Kumar A, Yadav G. Dynamic hip screw versus proximal femur locking compression plate in intertrochanteric femur fractures (AO 31A1 and 31A2): A prospective randomized study. J Nat Sci Biol Med. 2017 Jan-Jun;8(1):87-93. doi: 10.4103/0976-9668.198352. PubMed PMID: 28250681; PubMed Central PMCID: PMC5320830.

**INTRODUCTION:** Intertrochanteric fractures are common in elderly population and pose a significant financial burden to the society. Anatomically contoured proximal femur locking compression plate (PFLCP) is the latest addition in the surgeons' armamentarium to deal with these fractures. It creates an angular stable construct, which will theoretically lessen the risk of failure by screw cut-out and varus collapse, the common mode of DHS failure. We compared DHS with PFLCP in AO type 31A1 and 31A2 intertrochanteric fractures.

**MATERIALS AND METHODS:** A randomized prospective study was carried out between June 2011 and June 2013. 26 cases each of DHS and PFLCP were included.

**RESULTS:** Functional and radiological outcome was similar in both groups.

**CONCLUSION:** Both DHS and PFLCP are good choices for stable intertrochanteric fractures, and both lead to excellent functional outcomes, but non-union might be more common with PFLCP.

DOI: 10.4103/0976-9668.198352

PMCID: PMC5320830

PMID: 28250681

Conflict of interest statement: There are no conflicts of interest.

3: Akhter MS, Biswas A, Abdullah SM, Behari M, Saxena R. The Role of PAI-1 4G/5G

Promoter Polymorphism and Its Levels in the Development of Ischemic Stroke in Young Indian Population. Clin Appl Thromb Hemost. 2017 Jan 1;1076029617705728. doi: 10.1177/1076029617705728. [Epub ahead of print] PubMed PMID: 28460568.

The plasminogen activator inhibitor-1 (PAI-1) gene has been found to be associated with the pathogenesis and progression of vascular diseases including stroke. A 4G/5G, PAI-1 gene polymorphism has been found to be associated with the plasma PAI-1 levels in different ethnic populations but results are still controversial. The aim of this study was to determine the potential association of 4G/5G polymorphism and plasma PAI-1 levels in the development of ischemic stroke (IS) in young Asian Indians. One hundred patients with IS and an equal number of age- and sex-matched controls were studied. The 4G/5G polymorphism was genotyped in the study population through allele-specific polymerase chain reaction. Plasma PAI-1 levels were evaluated using a commercial kit. The PAI-1 levels were significantly higher in patients when compared to the controls (  $P = .03$ ). The variant 4G allele for the PAI-1 4G/5G polymorphism showed both genotypic (  $P = .0013$ ,  $\chi^2(2) = 10.303$ ; odds ratio [OR] = 3.75) as well as allelic association (  $P = .0004$ ,  $\chi^2(2) = 12.273$ ; OR = 1.99) with IS. The homozygous variant 4G/4G also was found to be associated with the higher PAI-1 levels (0.005). The variant allele 4G of PAI-1 4G/5G polymorphism and higher plasma PAI-1 levels were found to be significantly associated with IS in young Asian Indians.

DOI: 10.1177/1076029617705728  
PMID: 28460568

4: Anand S, Kondal D, Montez-Rath M, Zheng Y, Shivashankar R, Singh K, Gupta P, Gupta R, Ajay VS, Mohan V, Pradeepa R, Tandon N, Ali MK, Narayan KM, Chertow GM, Kandula N, Prabhakaran D, Kanaya AM. Prevalence of chronic kidney disease and risk factors for its progression: A cross-sectional comparison of Indians living in Indian versus U.S. cities. PLoS One. 2017 Mar 15;12(3):e0173554. doi: 10.1371/journal.pone.0173554. eCollection 2017. PubMed PMID: 28296920; PubMed Central PMCID: PMC5351850.

**BACKGROUND:** While data from the latter part of the twentieth century consistently showed that immigrants to high-income countries faced higher cardio-metabolic risk than their counterparts in low- and middle-income countries, urbanization and associated lifestyle changes may be changing these patterns, even for conditions considered to be advanced manifestations of cardio-metabolic disease (e.g., chronic kidney disease [CKD]).

**METHODS AND FINDINGS:** Using cross-sectional data from the Center for cArdiometabolic Risk Reduction in South Asia (CARRS,  $n = 5294$ ) and Mediators of Atherosclerosis in South Asians Living in America (MASALA,  $n = 748$ ) studies, we investigated whether prevalence of CKD is similar among Indians living in Indian and U.S. cities. We compared crude, age-, waist-to-height ratio-, and diabetes-adjusted CKD prevalence difference. Among participants identified to have CKD, we compared management of risk factors for its progression. Overall age-adjusted prevalence of CKD was similar in MASALA (14.0% [95% CI 11.8–16.3]) compared with CARRS (10.8% [95% CI 10.0–11.6]). Among men the prevalence difference was low (prevalence difference 1.8 [95% CI -1.6, 5.3]) and remained low after adjustment for age, waist-to-height ratio, and diabetes status (-0.4 [-3.2, 2.5]). Adjusted prevalence difference was higher among women (prevalence difference 8.9 [4.8, 12.9]), but driven entirely by a higher prevalence of albuminuria among women in MASALA. Severity of CKD--i.e., degree of albuminuria and proportion of participants with reduced glomerular filtration fraction--was higher in CARRS for both men and women. Fewer participants with CKD in CARRS were effectively treated. 4% of CARRS versus 51% of MASALA participants with CKD had  $A1c < 7\%$ ; and 7% of CARRS versus 59% of MASALA participants blood pressure  $< 140/90$  mmHg. Our analysis applies only to urban populations. Demographic--particularly educational attainment--differences among participants in the two studies are a potential source of bias.

**CONCLUSIONS:** Prevalence of CKD among Indians living in Indian and U.S. cities is

similar. Persons with CKD living in Indian cities face higher likelihood of experiencing end-stage renal disease since they have more severe kidney disease and little evidence of risk factor management.

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PMCID: PMC5351850  
PMID: 28296920

5: Angmo D, Wadhvani M, Upadhyay AD, Temkar S, Dada T. Outcomes of Trabeculectomy Augmented With Subconjunctival and Subscleral Ologen Implantation in Primary Advanced Glaucoma. *J Glaucoma*. 2017 Jan;26(1):8-14. doi: 10.1097/IJG.0000000000000537. PubMed PMID: 27599174.

**PURPOSE:** To evaluate the efficacy and safety of trabeculectomy with combined subconjunctival and subscleral ologen implant in eyes with advanced glaucomatous optic neuropathy.

**DESIGN:** This is a retrospective, noncomparative case series.

**METHODS:** Twenty seven eyes of 23 patients with advanced primary glaucoma who underwent fornix-based trabeculectomy with insertion of ologen both subsclerally and subconjunctivally along with low dose Mitomycin-C (0.1 mg/mL×1 min) were evaluated. Data recorded included a complete history, demographic profile, and ophthalmic examination including gonioscopy and visual fields. Any complications or secondary procedures performed after trabeculectomy were recorded. Complete success was defined as intraocular pressure (IOP)  $\leq 15$  mm Hg without ocular hypotensive medication and qualified success as IOP $\leq 15$  mm Hg with medications.

**RESULTS:** The average age of patients was  $46.2 \pm 14.8$  years. There were 17 males and 6 females. Of these, 7 patients were diagnosed with juvenile open-angle glaucoma, 7 patients with primary open-angle glaucoma and 9 patients with primary angle-closure glaucoma and pseudophakia. The average follow-up time was  $23.3 \pm 5.6$  months, with a minimum of at least 12 months. The mean preoperative IOP was  $38.3 \pm 6.6$  mm Hg. Postoperatively, the IOP at 3 months was  $12.5 \pm 1.9$  mm Hg; 6 months was  $12.6 \pm 3.9$  mm Hg; 12 months was  $12.3 \pm 2.5$  mm Hg; and 24 months was  $12.5 \pm 1.6$  mm Hg (n=17); (P<0.0001). Complete success was noted in 92.6% eyes, qualified success in 3.7% eyes, and failure in 3.7% eyes. The preoperative and postoperative best-corrected visual acuity in logarithm of the minimum angle of resolution was  $0.3 \pm 0.2$  and  $0.3 \pm 0.1$  (P=0.31). The average number of ocular hypotensive medications used preoperatively was  $4.2 \pm 0.5$  (median 4) which decreased to  $0.07 \pm 0.3$  (median 0), (P<0.0001) postoperatively.

**CONCLUSIONS:** Trabeculectomy with low dose Mitomycin-C and with implantation of ologen both subsclerally and subconjunctivally, appears to offer encouraging results in achieving a low target IOP in eyes with advanced primary adult glaucoma.

DOI: 10.1097/IJG.0000000000000537  
PMID: 27599174

6: Appunni S, Rajisha PM, Rubens M, Chandana S, Singh HN, Swarup V. Targeting PknB, an eukaryotic-like serine/threonine protein kinase of Mycobacterium tuberculosis with phytomolecules. *Comput Biol Chem*. 2017 Apr;67:200-204. doi: 10.1016/j.compbiolchem.2017.01.003. Epub 2017 Jan 9. PubMed PMID: 28131886.

Tuberculosis (TB), caused by Mycobacterium tuberculosis is one of the most lethal communicable disease globally. As per the WHO Global TB Report (2015), 9.6 million cases were reported in year 2014 alone. The receptor-like protein kinase, PknB is crucial for sustained mycobacterial growth. Therefore, PknB can be a potential target to develop anti-tuberculosis drugs. In present study, we performed a comparative study to investigate binding efficacies of three phytomolecules namely, Demethylcalabaxanthone, Cryptolepine hydrochloride and Ermanin. 3D structures of PknB and phytomolecules were retrieved from Protein Data Bank (PDB ID: 2FUM) and PubChem Chemical Compound Database, respectively. PknB was set to be rigid and phytochemicals were kept free to rotate. All

computational simulations were carried out using Autodock 4.0 on Windows platform. In-silico study demonstrated a strong complex formation (large binding constants and low  $\Delta G$ ) between phytomolecules and target protein PknB of *Mycobacterium tuberculosis*. However, Demethylcalabaxanthone was able to bind PknB more strongly ( $K_b=6.8 \times 10^5 M^{-1}$ ,  $\Delta G=-8.06 \text{ kcal/mol}$ ) than Cryptolepine hydrochloride ( $K_b=3.06 \times 10^5 M^{-1}$ ,  $\Delta G=-7.58 \text{ kcal/mol}$ ) and Ermanin ( $K_b=9.8 \times 10^4 M^{-1}$ ,  $\Delta G=-6.9 \text{ kcal/mol}$ ). These in silico analysis indicate that phytomolecules are capable to target PknB protein efficiently which is vital for mycobacterial survival and therefore can be excellent alternatives to conventional anti-tuberculosis drugs.

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PMID: 28131886

7: Arif N, Juyal D, Sebastian S, Khanna N, Dhawan B. Analysis of laboratory testing results for *Chlamydia trachomatis* infection in an STI clinic in India: Need for extragenital screening. *Int J Infect Dis.* 2017 Apr;57:1-2. doi: 10.1016/j.ijid.2017.01.004. Epub 2017 Jan 11. PubMed PMID: 28088589.

**BACKGROUND:** Extragenital sites are believed to serve as hidden reservoirs for ongoing transmission of infection. In addition, treatment for rectal *Chlamydia* infection is different from that of genital *Chlamydia* infection. Many cases may be missed if only genital testing is performed.

**METHODS:** Between September 2015 and August 2016, all male and female attendees at an STI clinic of a tertiary care hospital with genital and or extragenital discharge were screened for CT infection. Samples included endocervical swabs in women, urethral swabs and urine samples in men. Rectal and pharyngeal samples were collected wherever indicated.

**RESULTS:** Of total of 439 samples collected from 417 patients (245 women and 172 men), samples from women had a high positivity rate than men. (13.6% and 11%). High rates of rectal CT was detected nearly 30.43%. All rectal positive cases except one had no concomitant genital infection.

**CONCLUSIONS:** Prevalence of extragenital *Chlamydia* is increasing in men as well as women. What needs to be stressed on is the sexual behaviour of an individual and not the sexual identity. Further studies are needed to help formulate guidelines and recommendations for extragenital screening in a population.

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PMID: 28088589 [Indexed for MEDLINE]

8: Arunraj ST, Damle NA, Bal C, Gupta Y, Pal S. Insulinoma - The incremental value of somatostatin receptor positron emission tomography. *Indian J Endocrinol Metab.* 2017 Jan-Feb;21(1):255-256. doi: 10.4103/2230-8210.196025. PubMed PMID: 28217530; PubMed Central PMCID: PMC5240074.

9: Ayyalusamy A, Vellaiyan S, Shanmugam S, Ilamurugu A, Gandhi A, Shanmugam T, Murugesan K. Feasibility of offline head & neck adaptive radiotherapy using deformed planning CT electron density mapping on weekly cone beam computed tomography. *Br J Radiol.* 2017 Jan;90(1069):20160420. Epub 2016 Oct 26. PubMed PMID: 27781491.

**OBJECTIVE:** The purpose of the study was to use deformable mapping of planning CT (pCT) electron density values on weekly cone-beam CT (CBCT) to quantify the anatomical changes and determine the dose-volume relationship in offline adaptive volumetric-modulated arc therapy.

**METHODS:** 10 patients treated with RapidArc plans who had weekly CBCTs were

selected retrospectively. The pCT was deformed to weekly CBCTs and the deformed contours were checked for any discrepancies. Clinical target volume 66Gy and 60Gy (CTV66 and CTV60), parotids and spinal cord were the structures selected for analysis. Volume reduction and dice similarity index (DSI) were determined. Hybrid RapidArc plans were created and the cumulative dose-volume histograms for selected structures were analyzed.

RESULTS: Results showed a mean volume reduction of  $18.82 \pm 6.08\%$  and  $18.22 \pm 6.1\%$  for Clinical target volume 66Gy and 60Gy (CTV66 and CTV60), respectively, and their corresponding DSI values were  $0.94 \pm 0.03$  and  $0.95 \pm 0.01$ . Mean volume reductions of left and right parotids were  $32.79 \pm 10.28\%$  and  $29.46 \pm 8.78\%$ , respectively, and their corresponding mean DSI values were  $0.90 \pm 0.05$  and  $0.89 \pm 0.05$ . The cumulative mean dose difference for Planning target volume 66Gy (PTV66) was  $-1.35 \pm 1.71\%$  and for Planning target volume 60Gy (PTV60), it was  $-0.69 \pm 1.37\%$ . Spinal cord doses varied for all patients over the course.

CONCLUSION: The results from the study showed that it is clinically feasible to estimate the dose-volume relationship using deformed pCT. Monitoring of patient anatomic changes and incorporating patient-specific replanning strategy are necessary to avoid critical structure complications. Advances in knowledge: Deformable mapping of pCT electron density values on weekly CBCTs has been performed to establish the volumetric and dosimetric changes. The anatomical changes differ among the patients and hence, the choice for adaptive radiotherapy should be strictly patient specific rather than time specific.

DOI: 10.1259/bjr.20160420

PMID: 27781491 [Indexed for MEDLINE]

10: Babu BV, Kusuma YS. Violence against women and girls in the Sustainable Development Goals. Health Promot Perspect. 2016 Dec 18;7(1):1-3. doi: 10.15171/hpp.2017.01. eCollection 2017. PubMed PMID: 28058234; PubMed Central PMCID: PMC5209644.

11: Bajpai V, Singh N, Sardana H, Kumari S, Vettiyil B, Saraya A. Economic and social impact of out-of-pocket expenditure on households of patients attending public hospitals. Natl Med J India. 2017 Jan-Feb;30(1):15-20. PubMed PMID: 28731001.

BACKGROUND: We aimed to generate evidence on the social and economic impact of out-of-pocket expenses incurred by households on illness.

METHODS: We did a hospital-based cross-sectional study including a convenience sample of 374 inpatients and outpatients.

RESULTS: The median illness expenditure was the same (₹62 500) for inpatients and outpatients. Of all respondents, 51.3% among the rural and 65.5% among the urban patients were employed before illness, but after illness only 24.4% among the rural and 23.4% among the urban patients remained in employment. The proportion of rural households of different socioeconomic categories that experienced decrease in expenditure on food, education and health, and those who had to sell land or cattle, and the education of whose children suffered was statistically significant. The proportion of indebted families in different socioeconomic classes was also statistically significant among both rural and urban patients. The lowest socioeconomic strata depended mostly upon the financial support of their friends to tide over the financial crisis of an illness.

CONCLUSION: Our study shows that out-of-pocket expenses on healthcare are a burden not only for the poor but also the middle classes.

PMID: 28731001

12: Balhara YP, Singh S, Modak T, Sarkar S. A Cross-sectional Study to Assess Disability and Its Correlates among Treatment Seeking Individuals with Alcohol

Use Disorders. Indian J Psychol Med. 2017 Jan-Feb;39(1):40-45. doi: 10.4103/0253-7176.198941. PubMed PMID: 28250557; PubMed Central PMCID: PMC5329990.

**BACKGROUND AND OBJECTIVES:** Alcohol use is a major risk factor for global disease burden, and excessive use leads to disability in the individual. This study aimed to assess the disability and its correlates among individuals with alcohol use disorders (AUDs). In addition, it assessed the quality of life measures in this population group.

**METHODOLOGY:** A cross-sectional study on a sample (N = 62) from among treatment seekers for alcohol dependence. Diagnostic and Statistical Manual, Fifth Edition (DSM-5) criteria were used to assess disorder severity. The WHO Disability Assessment Schedule (WHODAS) 2.0 and World Health Organization Quality of Life-BREF were used to assess disability and quality of life, respectively. Descriptive statistics, correlation analysis, and linear regression analysis were used for comparative assessments. The level of statistical significance was kept at  $P < 0.05$  for all the tests.

**RESULTS:** DSM-5 diagnosis of the individuals suggested a high severity of substance use disorder as an average of 8.8 ( $\pm 1.8$ ) criteria were fulfilled. WHODAS 2.0 revealed maximum disability in the domains of "participation in the society," "household and work-related activities" and "cognitive functioning." The quality of life measures indicate poor physical health, reduced work capacity, and cognitive dysfunction. A negative correlation was seen between the social dimensions of disability (getting along) and quality of life measures of psychological health ( $P = 0.026$ ) and social relationships ( $P = 0.046$ ), work domain of disability schedule and physical health score on quality of life evaluation ( $P = 0.001$ ). Older age had greater impairment in the work domain ( $P = 0.040$ ), and unemployment was associated with higher disability ( $P = 0.001$ ). Unemployment and duration of alcohol use were the independent predictors of greater disability.

**CONCLUSIONS:** Disability assessment using WHODAS 2.0 shows significant impairment in individuals with AUDs that is negatively correlated with quality of life measures.

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PMID: 28250557

Conflict of interest statement: There are no conflicts of interest.

13: Bamola VD, Ghosh A, Kapardar RK, Lal B, Cheema S, Sarma P, Chaudhry R. Gut microbial diversity in health and disease: experience of healthy Indian subjects, and colon carcinoma and inflammatory bowel disease patients. Microb Ecol Health Dis. 2017 May 19;28(1):1322447. doi: 10.1080/16512235.2017.1322447. eCollection 2017. PubMed PMID: 28588430; PubMed Central PMCID: PMC5444350.

**Background:** The intestinal microbiota, through complex interactions with the gut mucosa, play a key role in the pathogenesis of colon carcinoma and inflammatory bowel disease (IBD). The disease condition and dietary habits both influence gut microbial diversity. **Objective:** The aim of this study was to assess the gut microbial profile of healthy subjects and patients with colon carcinoma and IBD. Healthy subjects included 'Indian vegetarians/lactovegetarians', who eat plant produce, milk and milk products, and 'Indian non-vegetarians', who eat plant produce, milk and milk products, certain meats and fish, and the eggs of certain birds and fish. 'Indian vegetarians' are different from 'vegans', who do not eat any foods derived wholly or partly from animals, including milk products. **Design:** Stool samples were collected from healthy Indian vegetarians/lactovegetarians and non-vegetarians, and colon cancer and IBD patients. Clonal libraries of 16S ribosomal DNA (rDNA) of bacteria were created from each sample. Clones were sequenced from one representative sample of each group. Approximately 500 white colonies were picked at random from each sample and 100 colonies were sequenced after amplified rDNA restriction analysis. **Results:** The dominant phylum from the healthy vegetarian was Firmicutes (34%), followed by Bacteroidetes (15%). The

balance was reversed in the healthy non-vegetarian (Bacteroidetes 84%, Firmicutes 4%; ratio 21:1). The colon cancer and IBD patients had higher percentages of Bacteroidetes (55% in both) than Firmicutes (26% and 12%, respectively) but lower Bacteroidetes:Firmicutes ratios (3.8:1 and 2.4:1, respectively) than the healthy non-vegetarian. Bacterial phyla of Verrucomicrobiota and Actinobacteria were detected in 23% and 5% of IBD and colon patients, respectively. Conclusions: Ribosomal Database Project profiling of gut flora in this study population showed remarkable differences, with unique diversity attributed to different diets and disease conditions.

DOI: 10.1080/16512235.2017.1322447

PMCID: PMC5444350

PMID: 28588430

14: Baranwal AK, Mehra NK. Major Histocompatibility Complex Class I Chain-Related A (MICA) Molecules: Relevance in Solid Organ Transplantation. *Front Immunol.* 2017 Feb 28;8:182. doi: 10.3389/fimmu.2017.00182. eCollection 2017. Review. PubMed PMID: 28293239; PubMed Central PMCID: PMC5329007.

An ever growing number of reports on graft rejection and/or failure even with good HLA matches have highlighted an important role of non-HLA antigens in influencing allograft immunity. The list of non-HLA antigens that have been implicated in graft rejection in different types of organ transplantation has already grown long. Of these, the Major Histocompatibility Complex class I chain-related molecule A (MICA) is one of the most polymorphic and extensively studied non-HLA antigenic targets especially in the kidney transplantation. Humoral response to MICA antigens has repeatedly been associated with lower graft survival and an increased risk of acute and chronic rejection following kidney and liver transplantation with few studies showing conflicting results. Although there are clear indications of MICA antibodies being associated with adverse graft outcome, a definitive consensus on this relationship has not been arrived yet. Furthermore, only a few studies have dealt with the impact of MICA donor-specific antibodies as compared to those that are not donor specific on graft outcome. In addition to the membrane bound form, a soluble isoform of MICA (sMICA), which has the potential to engage the natural killer cell-activating receptor NKG2D resulting in endocytosis and degradation of receptor-ligand interaction complex leading to suppression of NKG2D-mediated host innate immunity, has been a subject of intense discussion. Most studies on sMICA have been directed toward understanding their influence on tumor growth, with limited literature focusing its role in transplant biology. Furthermore, a unique dimorphism (methionine to valine) at position 129 in the  $\alpha 2$  domain categorizes MICA alleles into strong (MICA-129 met) and weak (MICA-129 val) binders of NKG2D receptor depending on whether they have methionine or valine at this position. Although the implications of MICA 129 dimorphism have been highlighted in hematopoietic stem cell transplantation, its role in solid organ transplantation is yet to be explored. This review summarizes the currently available information on MICA antibodies, soluble MICA, and MICA-129 dimorphism in a setting of solid organ transplantation.

DOI: 10.3389/fimmu.2017.00182

PMCID: PMC5329007

15: Barua M, Kaushik JS, Gulati S. Legal Provisions, Educational Services and Health Care Across the Lifespan for Autism Spectrum Disorders in India. *Indian J Pediatr.* 2017 Jan;84(1):76-82. doi: 10.1007/s12098-016-2261-5. Epub 2016 Dec 5. PubMed PMID: 27917445.

India is estimated to have over 10 million persons with autism. Rising awareness of autism in India over last decade with ready access to information has led to an increase in prevalence and earlier diagnosis, the creation of services and some policy initiatives. However, there remains a gaping chasm between policy and



implementation. The reach and quality of services continues sketchy and uneven, especially in the area of education. The present review discusses existing legal provisions for children and adults with autism in India. It also discusses Governmental efforts and lacunae in existing health care facilities and education services in India. While there are examples of good practice and stories of hope, strong policy initiatives have to support grassroots action to improve the condition of persons with autism in India.

DOI: 10.1007/s12098-016-2261-5  
PMID: 27917445

16: Behera C, Devassy S, Mridha AR, Chauhan M, Gupta SK. Leg massage by mother resulting in fatal pulmonary thromboembolism. *Med Leg J.* 2017 Jan 1;25817217706645. doi: 10.1177/0025817217706645. [Epub ahead of print] PubMed PMID: 28441907.

We report the sudden death of a 23-year-old male with hairline ankle fracture after massage of the leg by his mother. Autopsy confirmed the cause of death as pulmonary thromboembolism due to deep vein thrombosis of the leg veins which was dislodged and travelled to his lungs consequent to the leg massage. The treating doctors did not warn the patient of the risk of developing pulmonary thromboembolism.

DOI: 10.1177/0025817217706645  
PMID: 28441907

17: Behera C, Rautji R, Kumar R, Pooniya S, Sharma P, Gupta SK. Double Hanging with Single Ligature: An Unusual Method in Suicide Pact. *J Forensic Sci.* 2017 Jan;62(1):265-266. doi: 10.1111/1556-4029.13247. Epub 2016 Nov 11. PubMed PMID: 27861888.

A married casual labor couple was found hanging in their makeshift bedroom with each end of a single chunni (a cloth worn around the neck by Indian women) spread across an iron bar below the roof. They left their two children, daughter, and son of 4 and 3 yrs age, respectively, with their grandmother living separately nearby, and went to attend cremation of one of their relatives. They returned late in the evening and found hanging in their bedroom next morning by neighbors.

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DOI: 10.1111/1556-4029.13247  
PMID: 27861888

18: Behera C, Bodwal J, Sikary AK, Chauhan MS, Bijarnia M. Deaths Due to Accidental Air Conditioner Compressor Explosion: A Case Series. *J Forensic Sci.* 2017 Jan;62(1):254-257. doi: 10.1111/1556-4029.13242. Epub 2016 Nov 11. PubMed PMID: 27861882.

In an air-conditioning system, the compressor is a large electric pump that pressurizes the refrigerant gas as part of the process of turning it back into a liquid. The explosion of an air conditioner (AC) compressor is an uncommon event, and immediate death resulted from the blast effect is not reported in forensic literature. We report three such cases in which young AC mechanics were killed on the spot due to compressor blast, while repairing the domestic split AC unit. The autopsy findings, the circumstances leading to the explosion of the compressor, are discussed in this study.

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DOI: 10.1111/1556-4029.13242

19: Bhanu Prasad V, Mallick S, Upadhyay AD, Rath GK. Systematic review and individual patient data analysis of pediatric head and neck squamous cell carcinoma: An analysis of 217 cases. *Int J Pediatr Otorhinolaryngol*. 2017 Jan;92:75-81. doi: 10.1016/j.ijporl.2016.11.005. Epub 2016 Nov 12. Review. PubMed PMID: 28012539.

**INTRODUCTION:** Pediatric head and neck Squamous cell carcinoma (PHNSCC) is a rare disease. The optimum treatment and outcome remains poorly understood because of rarity.

**METHODS:** We conducted an individual patient data analysis of PHNSCC. Two authors independently searched PubMed, google search, and Cochrane library for eligible studies using following search words: Pediatric Head and neck squamous cell carcinoma, Head and neck squamous cell carcinoma under age of 20, Head and neck squamous cell carcinoma in young, PHNSCC till June 1, 2016 published in English language.

**RESULTS:** Total of 217 patients of PHNSCC were found in the literature. Median age among the cohort was 15 years (Range: 0-20 years) with a clear male preponderance. Oral cavity tumors were commonest 75 (70%) followed by laryngeal neoplasms 16(15%). Median disease free survival was 9 months (Range: 0-216 months). Median overall survival was 48 months (Range: 1-216 months). In univariate analysis treatment modality had significant impact on disease free survival (DFS). Whereas, patients treated with Surgery, Laryngeal primary had significantly better OS. Patients with associated fanconis anemia had significantly worse overall survival (OS).

**CONCLUSION:** PHNSCC is a rare disease with poorer outcome. Associated DNA defects leads to poorer OS. Patients treated with surgery alone or surgery followed by adjuvant radiation had better DFS and OS. Molecular profiling and personalized therapy may improve survival with limited toxicity.

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PMID: 28012539 [Indexed for MEDLINE]

20: Bhardwaj M, Sen S, Chosdol K, Sharma A, Pushker N, Kashyap S, Bakhshi S, Bajaj MS. miRNA-200c and miRNA-141 as potential prognostic biomarkers and regulators of epithelial-mesenchymal transition in eyelid sebaceous gland carcinoma. *Br J Ophthalmol*. 2017 Apr;101(4):536-542. doi: 10.1136/bjophthalmol-2016-309460. Epub 2017 Jan 24. PubMed PMID: 28119291.

**BACKGROUND:** MicroRNA (miRNA)-200c and miRNA-141 are tumour suppressors, which regulate epithelial-mesenchymal transition (EMT), leading to tumour invasion and metastasis in various malignancies. miRNA-200c and miRNA-141 maintain the epithelial phenotype by post-transcriptionally inhibiting the E-cadherin repressors, zinc finger E-box binding homeobox (ZEB)1 and ZEB2. The present study was performed to determine the prognostic significance of miRNA-200c and miRNA-141, and their association with EMT markers ZEB1, ZEB2 and E-cadherin in eyelid sebaceous gland carcinoma (SGC).

**METHODS:** Expression levels of miRNA-200c and miRNA-141 were determined in 42 eyelid SGC cases by quantitative real-time PCR (qPCR). Their association with ZEB1, ZEB2 and E-cadherin was determined by qPCR and immunohistochemistry. Kaplan-Meier plots and Spearman's rank correlation tests were applied to analyse the data. Patients were followed up for 7-44 months.

**RESULTS:** Low expression levels of miRNA-200c and miRNA-141 were seen in 36/42 (86%) and 28/42 (67%) cases, respectively. Low miRNA-200c correlated significantly with large tumour size (p=0.03) and poor differentiation (p=0.03). Low miRNA-141 correlated significantly with large tumour size (p=0.02) and lymph node metastasis (p=0.04). Survival analysis revealed that patients with low miRNA-200c (p<0.05) and miRNA-141 expression (p=0.07) had shorter disease-free

survival. There was a significant association of both miRNA-200c and miRNA-141 with E-cadherin and ZEB2 expression.

CONCLUSIONS: Low levels of miRNA-200c and miRNA-141 in patients with eyelid SGC facilitates tumour progression by promoting EMT and miRNA-200c has emerged as a novel potential predictor of survival.

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PMID: 28119291

21: Bhari N, Sharma VK, Jangid BL, Arava S, Srivastava A. A fleshy growth below the nail plate in an elderly man. *Int J Dermatol*. 2017 Jan 11. doi: 10.1111/ijd.13458. [Epub ahead of print] PubMed PMID: 28078732.

22: Bhari N, Jangid BL, Singh S, Mittal S, Ali F, Yadav S. Urethrocutaneous fistula: a rare presentation of penile tuberculosis. *Int J STD AIDS*. 2017 Jan;28(1):97-99. doi: 10.1177/0956462416647624. Epub 2016 Jul 10. PubMed PMID: 27105661.

A man in his 50s presented with two urethrocutaneous fistulae with intermittent dribbling of urine from the opening of fistula on the surface of glans penis. A skin biopsy from indurated margin of fistula was suggestive of fibrosing granulomatous reaction. Anti-tubercular therapy was given with a diagnosis of penile tuberculosis and there was 50% improvement within two months of treatment.

DOI: 10.1177/0956462416647624

PMID: 27105661 [Indexed for MEDLINE]

23: Biswas A, Julka PK, Bakhshi S, Singh M, Rath GK. Treatment Outcome in Patients with Primary Central Nervous System Germ Cell Tumour: Clinical Experience from a Regional Cancer Centre in North India. *Pediatr Neurosurg*. 2017;52(4):240-249. doi: 10.1159/000474946. Epub 2017 May 25. PubMed PMID: 28538229.

BACKGROUND: Primary intracranial germ cell tumour is a rare entity and constitutes 2-3% of all paediatric brain tumours in Western countries. We herein intend to report the clinical features and treatment outcome of patients with primary central nervous system germ cell tumour treated at our institute.

METHODS: Clinical data were collected by retrospective chart review from 2006 to 2012. Histopathology slides were reviewed and relevant immunohistochemistry stains were done. Overall survival (OS) and progression-free survival (PFS) were analysed by the Kaplan-Meier product-limit method.

RESULTS: Twenty patients met the study criterion (male:female = 7:3). Median age at presentation was 13 years. Tumour location was pineal in 10 patients, suprasellar in 6, thalamic in 2, basal ganglion in 1, and spinal in 1. Leptomeningeal spread was noted in 1 patient at presentation. Surgical resection was gross-total in 7 patients (35%), near-total in 2 (10%), subtotal in 4 (20%), and limited to biopsy in 6 (30%). The tumours were germinomatous, non-germinomatous, and of mixed germ cell subtype in 17 patients (85%), 2 patients (10%), and 1 patient (5%), respectively. Systemic chemotherapy (median of 4 cycles) was given to 19 patients (95%). The common regimens used were a combination of bleomycin, etoposide and cisplatin (BEP) in 14 patients (70%) and etoposide and cisplatin (EP) in 5 patients (25%). Radiation therapy (40-50 Gy in conventional fractionation; median of 42 Gy) was delivered to 17 patients (85%): local radiation in 6 and whole ventricular, whole brain, and craniospinal irradiation followed by a boost in 5, 3, and 3 patients, respectively. After a median follow-up of 44.52 months, 17 patients (85%) were in complete response and 3 (15%) had progressive disease. Death and disease recurrence were noted in 6

patients (30%) and 1 patient, respectively. Median OS and PFS were not reached. The actuarial rates of OS at 3 and 5 years were 75.8 and 68.9%, respectively. The actuarial rates of PFS at both 3 and 5 years were 81.6%.

**CONCLUSION:** Multimodality treatment consisting of limited resection followed by platinum-based systemic chemotherapy and radiotherapy (40-50 Gy) is a reasonable treatment strategy in patients of primary central nervous system germ cell tumour in a developing nation.

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PMID: 28538229

24: Biswas R, Halder A, Ramteke PP, Pandey R. Malignant solitary fibrous tumor of thoracic spine with distant metastases: Second reported case and review of the literature. *J Craniovertebr Junction Spine*. 2017 Jan-Mar;8(1):79-81. doi: 10.4103/0974-8237.199868. PubMed PMID: 28250642; PubMed Central PMCID: PMC5324366.

Solitary fibrous tumor (SFT) usually originates from the pleura because of abnormal proliferation of fibroblast cells. It is extremely rare for the tumor to originate from the spine. Here, we report the second case of malignant SFT of thoracic spine with distant metastases in a 35-years-old female.

DOI: 10.4103/0974-8237.199868

PMCID: PMC5324366

PMID: 28250642

Conflict of interest statement: There are no conflicts of interest.

25: Biswas S, Better N, Pascual TN, Mercuri M, Vitola JV, Karthikeyan G, Westcott J, Alexanderson E, Allam AH, Al-Mallah MH, Bom HH, Bouyoucef SE, Flotats A, Jerome S, Kaufman PA, Lele V, Luxenburg O, Mahmarian JJ, Shaw LJ, Underwood SR, Rehani M, Kashyap R, Dondi M, Paez D, Einstein AJ; INCAPS Investigators Group. Nuclear Cardiology Practices and Radiation Exposure in the Oceania Region: Results From the IAEA Nuclear Cardiology Protocols Study (INCAPS). *Heart Lung Circ*. 2017 Jan;26(1):25-34. doi: 10.1016/j.hlc.2016.05.112. Epub 2016 Jun 21. PubMed PMID: 27425184.

**BACKGROUND:** There is concern about radiation exposure with radionuclide myocardial perfusion imaging (MPI). This sub-study of the International Atomic Energy Agency (IAEA) Nuclear Cardiology Protocols Study reports radiation doses from MPI, and use of dose-optimisation protocols in Australia and New Zealand (ANZ), and compares them with data from the rest of the world.

**METHODS:** Data were collected from 7911 MPI studies performed in 308 laboratories worldwide in one week in 2013, including 439 MPI studies from 34 ANZ laboratories. For each laboratory, effective radiation dose (ED) and a quality index (QI) score (out of 8) based on pre-specified "best practices" was determined.

**RESULTS:** In ANZ patients, ED ranged from 0.9-17.9 millisievert (mSv). Median ED was similar in ANZ compared with the rest of the world (10.0 (IQR: 6.5-11.7) vs. 10.0 (IQR 6.4-12.6, P=0.15), as were mean QI scores (5.5±0.7 vs. 5.4±1.3, P=0.84). Use of stress-only imaging (17.6% vs. 31.8% of labs, P=0.09) and weight-based dosing of technetium-99m (14.7% vs. 30.3%, P=0.07) was lower in ANZ compared with the rest of the world but this difference was not statistically significant. Median ED was significantly lower in metropolitan versus non-metropolitan laboratories (10.1 mSv vs. 11.6 mSv, P<0.01), although mean QI scores were similar (5.4±0.8 vs. 5.5±0.7, P=0.75).

**CONCLUSION:** Across ANZ, there is variability in ED from MPI, and use of radiation safety practices, particularly between metropolitan and non-metropolitan laboratories. Overall, ANZ laboratories have a similar median ED to laboratories in the rest of the world.

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PMID: 27425184 [Indexed for MEDLINE]

26: Chandrasekaran A, Thukral A, Jeeva Sankar M, Agarwal R, Paul VK, Deorari AK. Nasal masks or binasal prongs for delivering continuous positive airway pressure in preterm neonates—a randomised trial. *Eur J Pediatr*. 2017 Mar;176(3):379-386. doi: 10.1007/s00431-017-2851-x. Epub 2017 Jan 13. PubMed PMID: 28091776.

The objective of this study was to compare the efficacy and safety of continuous positive airway pressure (CPAP) delivered using nasal masks with binasal prongs. We randomly allocated 72 neonates between 26 and 32 weeks gestation to receive bubble CPAP by either nasal mask (n = 37) or short binasal prongs (n = 35). Primary outcome was mean FiO<sub>2</sub> requirement at 6, 12 and 24 h of CPAP initiation and the area under curve (AUC) of FiO<sub>2</sub> against time during the first 24 h (FiO<sub>2</sub> AUC<sub>0-24</sub>). Secondary outcomes were the incidence of CPAP failure and nasal trauma. FiO<sub>2</sub> requirement at 6, 12 and 24 h (mean (SD); 25 (5.8) vs. 27.9 (8); 23.8 (4.5) vs. 25.4 (6.8) and 22.6 (6.8) vs. 22.7 (3.3)) as well as FiO<sub>2</sub> AUC<sub>0-24</sub> (584.0 (117.8) vs. 610.6 (123.6)) were similar between the groups. There was no difference in the incidence of CPAP failure (14 vs. 20%; relative risk 0.67; 95% confidence interval 0.24-1.93). Incidence of severe nasal trauma was lower with the use of nasal masks (0 vs. 31%; p < .001). CONCLUSIONS: Nasal masks appear to be as efficacious as binasal prongs in providing CPAP. Masks are associated with lower risk of severe nasal trauma.

TRIAL REGISTRATION: CTRI2012/08/002868 What is Known? • Binasal prongs are better than single nasal and nasopharyngeal prongs for delivering continuous positive airway pressure (CPAP) in preventing need for re-intubation. • It is unclear if they are superior to newer generation nasal masks in preterm neonates requiring CPAP. What is New? • Oxygen requirement during the first 24 h of CPAP delivery is comparable with use of nasal masks and binasal prongs. • Use of nasal masks is, however, associated with significantly lower risk of severe grades of nasal injury.

DOI: 10.1007/s00431-017-2851-x  
PMID: 28091776 [Indexed for MEDLINE]

27: Charara R, Forouzanfar M, Naghavi M, Moradi-Lakeh M, Afshin A, Vos T, Daoud F, Wang H, El Bcheraoui C, Khalil I, Hamadeh RR, Khosravi A, Rahimi-Movaghar V, Khader Y, Al-Hamad N, Makhlof Obermeyer C, Rafay A, Asghar R, Rana SM, Shaheen A, Abu-Rmeileh NM, Hussein A, Abu-Raddad LJ, Khoja T, Al Rayess ZA, AlBuhairan FS, Hsairi M, Alomari MA, Ali R, Roshandel G, Terkawi AS, Hamidi S, Refaat AH, Westerman R, Kiadaliri AA, Akanda AS, Ali SD, Bacha U, Badawi A, Bazargan-Hejazi S, Faghmous IA, Fereshtehnejad SM, Fischer F, Jonas JB, Kuate Defo B, Mehari A, Omer SB, Pourmalek F, Uthman OA, Mokdad AA, Maalouf FT, Abd-Allah F, Akseer N, Arya D, Borschmann R, Brazinova A, Brugha TS, Catalá-López F, Degenhardt L, Ferrari A, Haro JM, Horino M, Hornberger JC, Huang H, Kieling C, Kim D, Kim Y, Knudsen AK, Mitchell PB, Patton G, Sagar R, Satpathy M, Savuon K, Seedat S, Shiue I, Skogen JC, Stein DJ, Tabb KM, Whiteford HA, Yip P, Yonemoto N, Murray CJ, Mokdad AH. The Burden of Mental Disorders in the Eastern Mediterranean Region, 1990-2013. *PLoS One*. 2017 Jan 17;12(1):e0169575. doi: 10.1371/journal.pone.0169575. eCollection 2017. PubMed PMID: 28095477; PubMed Central PMCID: PMC5240956.

The Eastern Mediterranean Region (EMR) is witnessing an increase in chronic disorders, including mental illness. With ongoing unrest, this is expected to rise. This is the first study to quantify the burden of mental disorders in the EMR. We used data from the Global Burden of Disease study (GBD) 2013. DALYs (disability-adjusted life years) allow assessment of both premature mortality (years of life lost-YLLs) and nonfatal outcomes (years lived with disability-YLDs). DALYs are computed by adding YLLs and YLDs for each

age-sex-country group. In 2013, mental disorders contributed to 5.6% of the total disease burden in the EMR (1894 DALYS/100,000 population): 2519 DALYS/100,000 (2590/100,000 males, 2426/100,000 females) in high-income countries, 1884 DALYS/100,000 (1618/100,000 males, 2157/100,000 females) in middle-income countries, 1607 DALYS/100,000 (1500/100,000 males, 1717/100,000 females) in low-income countries. Females had a greater proportion of burden due to mental disorders than did males of equivalent ages, except for those under 15 years of age. The highest proportion of DALYs occurred in the 25-49 age group, with a peak in the 35-39 years age group (5344 DALYs/100,000). The burden of mental disorders in EMR increased from 1726 DALYs/100,000 in 1990 to 1912 DALYs/100,000 in 2013 (10.8% increase). Within the mental disorders group in EMR, depressive disorders accounted for most DALYs, followed by anxiety disorders. Among EMR countries, Palestine had the largest burden of mental disorders. Nearly all EMR countries had a higher mental disorder burden compared to the global level. Our findings call for EMR ministries of health to increase provision of mental health services and to address the stigma of mental illness. Moreover, our results showing the accelerating burden of mental health are alarming as the region is seeing an increased level of instability. Indeed, mental health problems, if not properly addressed, will lead to an increased burden of diseases in the region.

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PMCID: PMC5240956

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Conflict of interest statement: We would like to declare the following commercial affiliations: Dr. Anwar Rafay is employed by Contech International health consultants. Syed Danish Ali is employed by SIR Consultants. This does not alter our adherence to PLOS ONE policies on sharing data and materials.

28: Chaudhry R, Saigal K, Bahadur T, Kant K, Chourasia B, Gupta N. Varied presentations of leptospirosis: experience from a tertiary care hospital in north India. *Trop Doct.* 2017 Apr;47(2):128-132. doi: 10.1177/0049475516687431. Epub 2017 Jan 16. PubMed PMID: 28092222.

Leptospirosis has been recognised as an emerging global public health problem. The aim of our study was to explore the epidemiological and clinical pattern of disease occurrence in suspected cases and to search for any existing co-infections. Ours was a retrospective study in patients with acute febrile illness in north India over a period of three years (April 2011 to June 2014). Serological diagnosis of leptospirosis was made using the PanBio IgM ELISA kit. Using modified Faine's criteria, presumptive and possible diagnosis was made in 57% and 34% cases, respectively. Most of the affected population was resident in north and central India. Nineteen patients showed co-infection with other common pathogens prevailing locally. There is a need to increase awareness and understand the local sero-epidemiological pattern of leptospirosis so that timely preventive and curative action may be taken by healthcare authorities.

DOI: 10.1177/0049475516687431

PMID: 28092222 [Indexed for MEDLINE]

29: Chauhan S, Manoj K, Rastogi S, Khan SA, Prasad A. Biomechanical investigation of the effect of extracorporeal irradiation on resected human bone. *J Mech Behav Biomed Mater.* 2017 Jan;65:791-800. doi: 10.1016/j.jmbbm.2016.09.032. Epub 2016 Oct 4. PubMed PMID: 27776321.

Extra Corporeal irradiation and Reimplantation Therapy (ECRT) is an established biological reconstruction technique of limb salvage surgery for malignant bone tumor. Several studies have focused on clinical outcome of the procedure, but biomechanical changes post ECRT procedure are not well established. The present study investigates changes in strength, deformation, and composition of cortical bone obtained post en block resection from five patients suffering from ECRT, and the results are verified against age-match control specimen from cadaver. For pre-irradiated sample, average indentation modulus varied from 11.1GPa to

15.8GPa, and hardness from 0.36GPa to 0.48GPa. Post 50Gy irradiation, we observed an overall increase in deformation, viscous response, and energy dissipation across all samples, together with reduction in indentation modulus and hardness. These changes in strength and deformation were found to be consistent with compositional investigations via Raman spectroscopy, where mineralization and amount of calcium content was found to be decreased. The study thus quantifies the effect of extra corporeal irradiation on bone mechanical and compositional response, which in turn can provide clinicians much needed insight into the mechanism of bone healing and repair post ECRT to guide follow-up care and recovery.

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PMID: 27776321

30: Chauhan V, Jyotsna VP, Jain V, Khadgawat R, Dada R. Novel Heterozygous Genetic Variants in Patients with 46,XY Gonadal Dysgenesis. *Horm Metab Res.* 2017 Jan;49(1):36-42. doi: 10.1055/s-0042-114778. Epub 2016 Oct 6. PubMed PMID: 27711951.

46,XY gonadal dysgenesis (GD) constitutes a rare group of disorders characterized by the presence of dysfunctional testes in genotypic males. The molecular etiology is not known in about 2 thirds of instances. The aim of this study was to identify the genetic cause in patients with 46,XY gonadal dysgenesis. Based on clinical, cytogenetic, and biochemical screening, 10 patients with 46,XY GD were recruited. Direct sequencing of SRY, NR5A1, SOX9, DAX1, DHH, DMRT1 genes was carried out for molecular analysis. Among 10 patients, 5 were diagnosed with complete gonadal dysgenesis (CGD), 3 with partial gonadal dysgenesis (PGD), and 3 with testicular agenesis. Molecular analysis revealed 12 heterozygous genetic changes, 4 of which were novel. One (c.416T>A) was observed in evolutionary conserved region of DMRT1 gene in a patient with CGD and was found to be probably damaging on in silico analysis. Other 3 were identified in NR5A1 gene (c.990+22 C>A, c.1387+1403T>A and p.131P), but their association with gonadal dysgenesis is not evident from our study. These genetic changes were absent in parents and 50 healthy control samples, which were also studied. With targeted sequencing approach, a molecular diagnosis was made in only one patient with 46,XY GD. The application of new genomic technologies is required for the precise evaluation of these rare genetic defects.

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31: Chawla H, Saha S, Kandasamy D, Sharma R, Sreenivas V, Goswami R. Vertebral Fractures and Bone Mineral Density in Patients With Idiopathic Hypoparathyroidism on Long-Term Follow-Up. *J Clin Endocrinol Metab.* 2017 Jan 1;102(1):251-258. doi: 10.1210/jc.2016-3292. PubMed PMID: 27813708.

**Context:** Bone mineral density (BMD) is increased in idiopathic hypoparathyroidism (IH). Parathyroid hormone (PTH) deficiency, hypocalcemic seizures, and anticonvulsants could compromise skeletal health in IH.

**Objective:** We assessed vertebral fractures (VFs) and related factors in IH and change in BMD during follow-up.

**Design:** VFs were assessed by morphometry. BMD was assessed by dual-energy X-ray absorptiometry at the lumbar spine, hip, and forearm. Change in BMD was assessed in a subset after a 10-year follow-up.

**Setting:** The endocrine clinic of All India Institute of Medical Sciences, New Delhi, India.

**Subjects:** Included were 104 patients with IH and 64 healthy controls.

Hypocalcemia, hyperphosphatemia, normal kidney function, and low serum PTH levels

were used to diagnose IH.

Results: VFs were seen in 18.3% of patients with IH and 4.7% of controls (odds ratio, 4.54; 95% confidence interval, 1.28 to 16.04). Use of anticonvulsants and menopause were significantly associated ( $P < 0.05$ ) with VF. Mean BMD at lumbar spine and hip were higher by 21.4% and 8.6%, respectively, in IH than in controls ( $P < 0.001$ ), respectively. BMD significantly increased during follow-up at all sites. Change in BMD correlated with maintenance of the serum calcium/phosphorus ratio during follow-up.

Conclusions: Despite increased BMD, prevalence of vertebral-fractures is greater in patients with IH, especially in postmenopausal women and those on anticonvulsant therapy.

DOI: 10.1210/jc.2016-3292

PMID: 27813708 [Indexed for MEDLINE]

32: Chawla R, Tripathy K, Temkar S, Kumar V. Internal limiting membrane: The innermost retinal barrier. *Med Hypotheses*. 2017 Jan;98:60-62. doi: 10.1016/j.mehy.2016.11.017. Epub 2016 Nov 25. PubMed PMID: 28012608.

Recently, peeling of internal limiting membrane (ILM) has become one of the most common and effective surgical procedures for macular disorders. The authors discuss the adverse effects of such procedures and explore the possible functions of the membrane. We also suggest a barrier function of this membrane in addition to its possible other physiological roles. Thus, apart from the well-known inner and outer retinal barriers, ILM might be the third and innermost retinal barrier. The possible evidences supporting this hypothesis are presented.

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PMID: 28012608 [Indexed for MEDLINE]

33: Chawla R, Mittal K, Venkatesh P, Sharma YR. Solar retinopathy following cannabis consumption. *Clin Exp Optom*. 2017 Jan;100(1):92-93. doi: 10.1111/cxo.12421. Epub 2016 Aug 16. PubMed PMID: 27530184.

34: Chawla R, Tripathy K, Sharma YR, Venkatesh P, Vohra R. Periarterial Plaques (Kyrieleis' Arteriolitis) in a Case of Bilateral Acute Retinal Necrosis. *Semin Ophthalmol*. 2017;32(2):251-252. doi: 10.3109/08820538.2015.1045153. Epub 2015 Jul 10. PubMed PMID: 26161821.

PURPOSE: To describe unilateral periarterial plaque in a case of bilateral acute retinal necrosis (BARN) due to varicella zoster virus (VZV).

METHODS: Case report.

RESULTS: A 43-year-old diabetic male presented to us with dimness of vision in the left eye for three months. He was already on oral steroids and anti-viral therapy. Best-corrected visual acuity was 6/6 OD and hand movements close to face OS. The right eye showed inferior and temporal retinal thinning and pigmentation and periarterial whitish focal Kyrieleis' plaques, specifically along arterioles. Left eye had mild vitritis, optic disc pallor, arteriolar attenuation, with retinal whitening and areas of pigmentation involving 360° of peripheral retina along with some involvement of the posterior pole. Serology for human immunodeficiency virus (HIV), herpes simplex virus (HSV), and cytomegalo virus (CMV) was negative. IgM for VZV was positive. Oral Valacyclovir 1g thrice daily was continued and a slow taper of oral steroids was instituted.

CONCLUSIONS: ARN should be considered as a differential diagnosis in cases with Kyrieleis' plaques and a peripheral retinal examination must be done to rule out patches of healed retinitis and vasculitis.

DOI: 10.3109/08820538.2015.1045153

PMID: 26161821 [Indexed for MEDLINE]



35: Chohan A, Singh U, Kumar A, Kaur J. Müller stem cell dependent retinal regeneration. Clin Chim Acta. 2017 Jan;464:160-164. doi: 10.1016/j.cca.2016.11.030. Epub 2016 Nov 19. Review. PubMed PMID: 27876464.

Müller Stem cells to treat ocular diseases has triggered enthusiasm across all medical and scientific communities. Recent development in the field of stem cells has widened the prospects of applying cell based therapies to regenerate ocular tissues that have been irreversibly damaged by disease or injury. Ocular tissues such as the lens and the retina are now known to possess cell having remarkable regenerative abilities. Recent studies have shown that the Müller glia, a cell found in all vertebrate retinas, is the primary source of new neurons, and therefore are considered as the cellular basis for retinal regeneration in mammalian retinas. Here, we review the current status of retinal regeneration of the human eye by Müller stem cells. This review elucidates the current status of retinal regeneration by Müller stem cells, along with major retinal degenerative diseases where these stem cells play regenerative role in retinal repair and replacement.

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DOI: 10.1016/j.cca.2016.11.030  
PMID: 27876464 [Indexed for MEDLINE]

36: Choudhury M, Kapoor PM. Goldenhar syndrome: Cardiac anesthesiologist's perspective. Ann Card Anaesth. 2017 Jan;20(Supplement):S61-S66. doi: 10.4103/0971-9784.197802. Review. PubMed PMID: 28074825; PubMed Central PMCID: PMC5299831.

Goldenhar syndrome or oculo-auriculo-vertebral dysplasia was defined by Goldenhar in 1952 and redefined by Grolin et al. later. As the name denotes, children with this syndrome present with craniofacial and vertebral anomalies which increase the risk of airway compromise. Neonates and infants with this syndrome often have premature internal organs, low birth weight, and airway disorders. For this reason, safe anesthesia in such infants requires a complete knowledge regarding metabolism and side effects of the drugs. The association of cardiovascular abnormalities is not uncommon and possesses additional challenge for anesthetic management. The aim of this review is to draw attention to the various perioperative problems that can be faced in these infants when they undergo surgery or the correction of the underlying cardiac problem.

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PMCID: PMC5299831  
PMID: 28074825 [Indexed for MEDLINE]

37: Chowdhury T, Garg R, Sheshadri V, Venkatraghavan L, Bergese SD, Cappellani RB, Schaller B. Perioperative Factors Contributing the Post-Craniotomy Pain: A Synthesis of Concepts. Front Med (Lausanne). 2017 Mar 1;4:23. doi: 10.3389/fmed.2017.00023. eCollection 2017. Review. PubMed PMID: 28299313; PubMed Central PMCID: PMC5331036.

The perioperative management of post-craniotomy pain is controversial. Although the concept of pain control in non-neurosurgical fields has grown substantially, the understanding of neurosurgical pain and its causative factors in such a population is inconclusive. In fact, the organ that is the center of pain and its related mechanisms receives little attention to alleviate distress during neurosurgical procedures. In contrast to the old belief that pain following intracranial surgery is minimal, recent data suggest the exact opposite. Despite the evolution of various multimodal analgesic techniques for optimal pain control, the concern of post-craniotomy pain remains. This paradox could be due to the lack of thorough understanding of different perioperative factors that can influence the incidence and intensity of pain in post-craniotomy population. Therefore, this review aims to give an in-depth insight into the various aspects

of pain and its related factors in adult neurosurgical patients.

DOI: 10.3389/fmed.2017.00023

PMCID: PMC5331036

PMID: 28299313

38: Chowdhury T, Bindu B, Singh GP, Schaller B. Sleep Disorders: Is the Trigemino-Cardiac Reflex a Missing Link? *Front Neurol.* 2017 Feb 27;8:63. doi: 10.3389/fneur.2017.00063. eCollection 2017. Review. PubMed PMID: 28289401; PubMed Central PMCID: PMC5326750.

Trigeminal innervated areas in face, nasolacrimal, and nasal mucosa can produce a wide array of cardiorespiratory manifestations that include apnea, bradypnea, bradycardia, hypotension, and arrhythmias. This reflex is a well-known entity called "trigemino-cardiac reflex" (TCR). The role of TCR is investigated in various pathophysiological conditions especially in neurosurgical, but also skull base surgery procedures. Additionally, its significance in various sleep-related disorders has also been highlighted recently. Though, the role of diving reflex, a subtype of TCR, has been extensively investigated in sudden infant death syndrome. The data related to other sleep disorders including obstructive sleep apnea, bruxism is very limited and thus, this mini review aims to investigate the possible role and correlation of TCR in causing such sleep abnormalities.

DOI: 10.3389/fneur.2017.00063

PMCID: PMC5326750

PMID: 28289401

39: Chua SK, Qureshi AM, Krishnan V, Pai DR, Kamal LB, Gunasegaran S, Afzal MZ, Ambawatta L, Gan JY, Kew PY, Winn T, Sood S. The impact factor of an open access journal does not contribute to an article's citations. *F1000Res.* 2017 Mar 2;6:208. doi: 10.12688/f1000research.10892.1. eCollection 2017. PubMed PMID: 28649365; PubMed Central PMCID: PMC5464220.

Background Citations of papers are positively influenced by the journal's impact factor (IF). For non-open access (non-OA) journals, this influence may be due to the fact that high-IF journals are more often purchased by libraries, and are therefore more often available to researchers, than low-IF journals. This positive influence has not, however, been shown specifically for papers published in open access (OA) journals, which are universally accessible, and do not need library purchase. It is therefore important to ascertain if the IF influences citations in OA journals too. Methods 203 randomized controlled trials (102 OA and 101 non-OA) published in January 2011 were included in the study. Five-year citations for papers published in OA journals were compared to those for non-OA journals. Source papers were derived from PubMed. Citations were retrieved from Web of Science, Scopus, and Google Scholar databases. The Thompson-Reuter's IF was used. Results OA journals were found to have significantly more citations overall compared to non-OA journals (median 15.5 vs 12,  $p=0.039$ ). The IF did not correlate with citations for OA journals (Spearman's  $\rho=0.187$ ,  $p=0.60$ ). The increase in the citations with increasing IF was minimal for OA journals (beta coefficient = 3.346, 95% CI -0.464, 7.156,  $p=0.084$ ). In contrast, the IF did show moderate correlation with citations for articles published in non-OA journals (Spearman's  $\rho=0.514$ ,  $p<0.001$ ). The increase in the number of citations was also significant (beta coefficient = 4.347, 95% CI 2.42, 6.274,  $p<0.001$ ). Conclusion It is better to publish in an OA journal for more citations. It may not be worth paying high publishing fees for higher IF journals, because there is minimal gain in terms of increased number of citations. On the other hand, if one wishes to publish in a non-OA journal, it is better to choose one with a high IF.

DOI: 10.12688/f1000research.10892.1

PMCID: PMC5464220

PMID: 28649365

Conflict of interest statement: Competing interests: No competing interests were

disclosed.

40: Dahiya S, Sharma P, Kumari B, Pandey S, Malik R, Manral N, Veeraraghavan B, Pragasam AK, Ray P, Gautam V, Sistla S, Parija SC, Walia K, Ohri V, Das BK, Sood S, Kapil A. Characterisation of antimicrobial resistance in Salmonellae during 2014–2015 from four centres across India: An ICMR antimicrobial resistance surveillance network report. *Indian J Med Microbiol.* 2017 Jan–Mar;35(1):61–68. doi: 10.4103/ijmm.IJMM\_16\_382. PubMed PMID: 28303820.

**PURPOSE:** The main purpose of this study was to establish 'Antimicrobial Resistance Surveillance Network' in India and to monitor the antimicrobial susceptibility profile of clinical isolates to establish a national network across the country for monitoring antimicrobial resistance in Salmonella. **MATERIALS AND METHODS:** This study was conducted at All India Institute of Medical Sciences, nodal centre with clinical isolates of Salmonellae collected from four centres across India, which included Christian Medical College, Vellore; Postgraduate Institute of Medical Education and Research, Chandigarh and Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry. Total 20% of the selected strains from each centre were characterised for molecular studies which included molecular mechanism of fluoroquinolones resistance and multiple locus sequence type.

**RESULTS:** A total of 622 Salmonellae were received from all centres during January 2014 to December 2015. Out of these 622 isolates, 380 were Salmonella Typhi, 162 were Salmonella Paratyphi A and 7 were S. Paratyphi B isolated from blood and 73 were other Salmonella serotypes. Multiple drug resistance (resistant to ampicillin, chloramphenicol and co-trimoxazole) was less than 3% in S. Typhi. In S. Paratyphi A, chloramphenicol and co-trimoxazole susceptibility was 100% and 99%, respectively, whereas ampicillin susceptibility was 86% (139/161). Ciprofloxacin and nalidixic acid susceptibility was 15% (24/162) and 1% (2/162) from all centres. S. Paratyphi B was isolated from 7 patients. All isolates were third-generation cephalosporin sensitive. The most common mutations found were at codon 83 and at codon 87. We did not find any mutation in *acrR* gene. Efflux pump and *qnr* genes were not found in any isolate tested. All 86 S. Typhi isolates clustered into two sequence types - ST1 and ST2. Out of these 86 isolates, 70 S. Typhi were ST1 and 16 were ST2. All S. Paratyphi A was clustered in ST85 and ST129 on the basis of mutation in *sucA* gene. Out of 27 S. Paratyphi A, 13 were grouped into ST85 and 14 were grouped into ST129.

**CONCLUSIONS:** Enteric fever is one such infection which poses challenges in antimicrobial resistance. Hence, continuous surveillance is important to track bacterial resistance and to treat infections in a cost-effective manner.

DOI: 10.4103/ijmm.IJMM\_16\_382  
PMID: 28303820 [Indexed for MEDLINE]

41: Das A, Bhalla AS, Sharma R, Kumar A, Thakar A, Vishnubhatla SM, Sharma MC, Sharma SC. Can Diffusion Weighted Imaging Aid in Differentiating Benign from Malignant Sinonasal Masses?: A Useful Adjunct. *Pol J Radiol.* 2017 Jun 28;82:345–355. doi: 10.12659/PJR.900633. eCollection 2017. PubMed PMID: 28740564; PubMed Central PMCID: PMC5499628.

**BACKGROUND:** To evaluate the role of diffusion weighted imaging (DWI) and apparent diffusion coefficient (ADC) values at 3 Tesla in characterizing sinonasal masses. **MATERIAL/METHODS:** After ethical clearance, 79 treatment naive patients with head and neck masses underwent magnetic resonance imaging (MRI), including DWI at 3 Tesla using the following b values - 0, 500 and 1000 s/mm<sup>2</sup>. Thirty-one patients were found to have sinonasal tumours and were subsequently analysed. Image analysis consisted of a morphological evaluation of conventional MR images, qualitative evaluation of DW trace images and quantitative assessment of mean ADC values. Receiver operating characteristic (ROC) curve was drawn to determine a cut-off ADC value for the differentiation between benign and malignant masses. **RESULTS:** Sinonasal masses showed an overlapping growth pattern on conventional imaging, irrespective of their biological nature. The mean ADC value of benign lesions was  $1.948 \pm 0.459 \times 10^{-3}$  mm<sup>2</sup>/s, while that of malignant lesions was

1.046±0.711×10<sup>(-3)</sup> mm<sup>2</sup>/s, and the difference was statistically significant (p=0.004). When a cut-off ADC value of 1.791×10<sup>(-3)</sup> mm<sup>2</sup>/s was used, sensitivity of 80% and specificity of 83.3% were obtained for characterization of malignant lesions, which was statistically significant. Juvenile nasopharyngeal angiofibroma (JNA) showed distinctly high ADC values, while meningioma was the only benign lesion with restricted diffusion. Atypical entities with unexpected diffusion characteristics included: adenocarcinoma, adenoid cystic carcinoma, meningioma, chondrosarcoma and fibromyxoid sarcoma.

CONCLUSIONS: DWI in conjunction with conventional imaging can potentially enhance the diagnostic accuracy in characterizing sinonasal masses as benign or malignant. Some specific entities such as JNA and meningioma showed distinctive diffusion characteristics.

DOI: 10.12659/PJR.900633

PMCID: PMC5499628

PMID: 28740564

Conflict of interest statement: Conflict of interest Authors declares that there is no conflict of interest.

42: Dash C, Singla R. Letter to the Editor. Unilateral or bilateral drainage for chronic subdural hematoma. *J Neurosurg*. 2017 Jun;126(6):2056-2057. doi: 10.3171/2016.8.JNS161915. Epub 2017 Jan 13. PubMed PMID: 28084913.

43: De Lima L, Woodruff R, Pettus K, Downing J, Buitrago R, Munyoro E, Venkateswaran C, Bhatnagar S, Radbruch L. International Association for Hospice and Palliative Care Position Statement: Euthanasia and Physician-Assisted Suicide. *J Palliat Med*. 2017 Jan;20(1):8-14. Epub 2016 Nov 29. PubMed PMID: 27898287; PubMed Central PMCID: PMC5177996.

BACKGROUND: Reports about regulations and laws on Euthanasia and Physician Assisted Suicide (PAS) are becoming increasingly common in the media. Many groups have expressed opposition to euthanasia and PAS while those in favor argue that severely chronically ill and debilitated patients have a right to control the timing and manner of their death. Others argue that both PAS and euthanasia are ethically legitimate in rare and exceptional cases. Given that these discussions as well as the new and proposed laws and regulations may have a powerful impact on patients, caregivers, and health care providers, the International Association for Hospice and Palliative Care (IAHPC) has prepared this statement.

PURPOSE: To describe the position of the IAHPC regarding Euthanasia and PAS.

METHOD: The IAHPC formed a working group (WG) of seven board members and two staff officers who volunteered to participate in this process. An online search was performed using the terms "position statement", "euthanasia" "assisted suicide" "PAS" to identify existing position statements from health professional organizations. Only statements from national or pan-national associations were included. Statements from seven general medical and nursing associations and statements from seven palliative care organizations were identified. A working document including a summary of the different position statements was prepared and based on these, an initial draft was prepared. Online discussions among the members of the WG took place for a period of three months. The differences were reconciled by email discussions. The resulting draft was shared with the full board. Additional comments and suggestions were incorporated. This document represents the final version approved by the IAHPC Board of Directors.

RESULT: IAHPC believes that no country or state should consider the legalization of euthanasia or PAS until it ensures universal access to palliative care services and to appropriate medications, including opioids for pain and dyspnea.

CONCLUSION: In countries and states where euthanasia and/or PAS are legal, IAHPC agrees that palliative care units should not be responsible for overseeing or administering these practices. The law or policies should include provisions so that any health professional who objects must be allowed to deny participating.

DOI: 10.1089/jpm.2016.0290

Conflict of interest statement: Author Disclosure Statement No competing financial interests exist.

44: Deshmukh VR, Bhardwaj H, Khan F, Jacob TG. Aberrant Cutaneous Nerve Loops in the Axilla. *Acta Medica (Hradec Kralove)*. 2017;60(1):51-54. doi: 10.14712/18059694.2017.50. PubMed PMID: 28591552.

During routine dissection classes, conducted for first year undergraduate medical students, we encountered a rare anatomical variation in relation to the intercostobrachial nerve (ICBN). The ICBN represents the lateral undivided cutaneous branch of second intercostal nerve. In this case, the ICBN formed nerve loops with branches of the lateral cutaneous branch of the third intercostal nerve. These loops eventually gave branches that probably supplied the floor of the axilla and proximal arm. Nowadays, this ICBN is gaining clinical importance during the axillary lymph node dissections and mammary gland surgeries. Damage to the ICBN, may results in the sensory deficits in patients undergoing surgery. In our case report, ICBN was making aberrant nerve loop along with the branches from the third intercostal nerve. Knowledge regarding the origin, formation and route of ICBN is of clinical significance to axillary surgeons, radiologist and anesthesiologists.

DOI: 10.14712/18059694.2017.50  
PMID: 28591552

45: Dhikav V, Duraiswamy S, Anand KS. Correlation between hippocampal volumes and medial temporal lobe atrophy in patients with Alzheimer's disease. *Ann Indian Acad Neurol*. 2017 Jan-Mar;20(1):29-35. doi: 10.4103/0972-2327.199903. PubMed PMID: 28298839; PubMed Central PMCID: PMC5341264.

**INTRODUCTION:** Hippocampus undergoes atrophy in patients with Alzheimer's disease (AD). Calculation of hippocampal volumes can be done by a variety of methods using T1-weighted images of magnetic resonance imaging (MRI) of the brain. Medial temporal lobes atrophy (MTL) can be rated visually using T1-weighted MRI brain images. The present study was done to see if any correlation existed between hippocampal volumes and visual rating scores of the MTL using Scheltens Visual Rating Method.

**MATERIALS AND METHODS:** We screened 84 subjects presented to the Department of Neurology of a Tertiary Care Hospital and enrolled forty subjects meeting the National Institute of Neurological and Communicative Disorders and Stroke, AD related Disease Association criteria. Selected patients underwent MRI brain and T1-weighted images in a plane perpendicular to long axis of hippocampus were obtained. Hippocampal volumes were calculated manually using a standard protocol. The calculated hippocampal volumes were correlated with Scheltens Visual Rating Method for Rating MTL. A total of 32 cognitively normal age-matched subjects were selected to see the same correlation in the healthy subjects as well. Sensitivity and specificity of both methods was calculated and compared.

**RESULTS:** There was an insignificant correlation between the hippocampal volumes and MTL rating scores in cognitively normal elderly (n = 32; Pearson Correlation coefficient = 0.16, P > 0.05). In the AD Group, there was a moderately strong correlation between measured hippocampal volumes and MTL Rating (Pearson's correlation coefficient = -0.54; P < 0.05. There was a moderately strong correlation between hippocampal volume and Mini-Mental Status Examination in the AD group. Manual delineation was superior compared to the visual method (P < 0.05).

**CONCLUSIONS:** Good correlation was present between manual hippocampal volume measurements and MTL scores. Sensitivity and specificity of manual measurement of hippocampus was higher compared to visual rating scores for MTL in patients with AD.

DOI: 10.4103/0972-2327.199903

PMCID: PMC5341264  
PMID: 28298839

Conflict of interest statement: There are no conflicts of interest.

46: Dhua AK, Ranjan A, Agarwala S, Bhatnagar V, Mathur SR, Devasenathipathy K. Giant renal Angiomyolipoma masquerading as a Wilms tumor. *Indian J Urol.* 2017 Jan-Mar;33(1):73-75. doi: 10.4103/0970-1591.197325. PubMed PMID: 28197035; PubMed Central PMCID: PMC5264199.

Renal Angiomyolipoma (AML) is not commonly seen in the pediatric age group other than patients of tuberous sclerosis where in they can have renal AMLs within the first decade with bilateral involvement. Diagnosis of renal AML can generally be made by the current radiological modalities in the appropriate clinical setting, but it can be mistaken for other tumors when it is large and has low-fat content. Herein we report a case of giant renal AML that was initially misdiagnosed as a Wilms tumor in a 12-year-old girl.

DOI: 10.4103/0970-1591.197325  
PMCID: PMC5264199  
PMID: 28197035

Conflict of interest statement: There are no conflicts of interest.

47: Dogra K, Goyal A, Khadgawat R, Gupta Y, Rout D, Fulzele PP, Chaurasia R, Coshic P, Chatterjee K. Low-density lipoprotein apheresis in a pediatric patient of familial hypercholesterolemia: Primi experientia from a tertiary care center in North India. *Asian J Transfus Sci.* 2017 Jan-Jun;11(1):58-61. doi: 10.4103/0973-6247.200766. PubMed PMID: 28316443; PubMed Central PMCID: PMC5345283.

Familial hypercholesterolemia (FH) is an autosomal dominant disorder due to mutation of apolipoprotein-B receptor gene causing severe dyslipidemia. Lifestyle modification and medical treatment attenuate the disease progression, but as these fail to control the blood cholesterol levels, low-density lipoprotein (LDL) apheresis comes forth as a treatment option. To the best of our knowledge, the following is the very first case of pediatric FH being treated by LDL-apheresis to be reported from India. A severely malnourished female child presented with yellowish skin lesions over different parts of the body, viz., bilateral Achilles tendon, both knees, elbows, both pinnae, and outer canthus of both eyes. She had a strong family history of borderline hypercholesterolemia and was diagnosed as a case of FH. She was maintained on diet modification. LDL-apheresis was planned as the cholesterol levels were not controlled with the diet modification. However, unavailability of an appropriate kit in India for LDL-apheresis led to the use of the modified PL1 kit meant for therapeutic plasma exchange procedures. We conducted two sessions of LDL-apheresis. After the first session, the LDL-cholesterol (LDL-C) level fell by 75.9% and the total cholesterol fell by 73.5%. A second procedure led to a decline in total cholesterol level by 18.6% and LDL-C by 19.46%. Subsequently, she was advised diet modification and statin therapy with regular follow-up after every 6 months. Thus, the cascade filtration technique is a safe and effective treatment option for removing the undesired lipoproteins.

DOI: 10.4103/0973-6247.200766  
PMCID: PMC5345283  
PMID: 28316443

Conflict of interest statement: There are no conflicts of interest.

48: Doval DC, Bhurani D, Nair R, Gujral S, Malhotra P, Ramanan G, Mohan R, Biswas G, Dattatreya S, Agarwal S, Pendharkar D, Julka PK, Advani SH, Dhaliwal RS, Tayal J, Sinha R, Kaur T, Rath GK. Indian Council of Medical Research Consensus Document for the Management of Non-Hodgkin's Lymphoma (High Grade). *Indian J Med*

This consensus document is based on the guidelines related to the management of Non Hodgkin's Lymphoma (High grade) in the Indian population as proposed by the core expert committee. Accurate diagnosis in hematolymphoid neoplasm requires a combination of detailed history, clinical examination, and various investigations including routine laboratory tests, good quality histology section (of tumor and also bone marrow aspirate/biopsy), immunostaining, cytogenetic and molecular studies and radiology investigations. The staging system used for adult high grade lymphomas is based on the Ann Arbor system and includes various parameters like clinical, haematology, biochemistry, serology and radiology. Response should be evaluated with radiological evaluation after 3-4 cycles and at the end of treatment based on criteria including and excluding PET. Treatment of high grade lymphomas is based on histologic subtype, extent of disease, and age of the patient. Autologous stem cell transplantation after high dose chemotherapy is effective in the treatment of relapsed NHL. Newer RT techniques like 3 dimensional conformal radiation therapy (3D-CRT) and intensity modulated radiation therapy (IMRT) can significantly reduce radiation doses to surrounding normal tissues in lymphoma patients. Patients should be followed up every 3 to 4 months for the first 2 years, followed by 6 monthly for the next 3 years and then annually.

DOI: 10.4103/0971-5851.203500

PMCID: PMC5398107

PMID: 28469337

Conflict of interest statement: There are no conflicts of interest.

49: Dube SK, Roy H, Singh GP, Chaturvedi A. Hemodynamic disturbance during watertight dural closure? Mind the direction of saline irrigation!!! Saudi J Anaesth. 2017 Jan-Mar;11(1):122-123. doi: 10.4103/1658-354X.197352. PubMed PMID: 28217074; PubMed Central PMCID: PMC5292838.

50: Dubey G, Gupta SK, Kothari SS. Isolated left brachiocephalic artery with the right aortic arch: A rare differential of large patent ductus arteriosus. Ann Pediatr Cardiol. 2017 Jan-Apr;10(1):78-81. doi: 10.4103/0974-2069.197067. PubMed PMID: 28163435; PubMed Central PMCID: PMC5241852.

We report a case of isolation of the left brachiocephalic artery with the right aortic arch in a 9-year-old male child masquerading as large patent ductus arteriosus with left-to-right shunt. We have emphasized the subtle clinical findings which served as clues to the diagnosis.

DOI: 10.4103/0974-2069.197067

PMCID: PMC5241852

PMID: 28163435

Conflict of interest statement: There are no conflicts of interest.

51: Fehlings MG, Santaguida C, Tetreault L, Arnold P, Barbagallo G, Defino H, Kale S, Zhou Q, Yoon TS, Kopjar B. Laminectomy and fusion versus laminoplasty for the treatment of degenerative cervical myelopathy: results from the AOSpine North America and International prospective multicenter studies. Spine J. 2017 Jan;17(1):102-108. doi: 10.1016/j.spinee.2016.08.019. Epub 2016 Sep 3. PubMed PMID: 27597512.

BACKGROUND CONTEXT: It remains unclear whether cervical laminoplasty (LP) offers advantages over cervical laminectomy and fusion (LF) in patients undergoing posterior decompression for degenerative cervical myelopathy (DCM).

PURPOSE: The objective of this study is to compare outcomes of LP and LF.

STUDY DESIGN/SETTING: This is a multicenter international prospective cohort

study.

**PATIENT SAMPLE:** A total of 266 surgically treated symptomatic DCM patients undergoing cervical decompression using LP (N=100) or LF (N=166) were included. **OUTCOME MEASURES:** The outcome measures were the modified Japanese Orthopaedic Association score (mJOA), Nurick grade, Neck Disability Index (NDI), Short-Form 36v2 (SF36v2), length of hospital stay, length of stay in the intensive care unit, treatment complications, and reoperations.

**METHODS:** Differences in outcomes between the LP and LF groups were analyzed by analysis of variance and analysis of covariance. The dependent variable in all analyses was the change score between baseline and 24-month follow-up, and the independent variable was surgical procedure (LP or LF). In the analysis of covariance, outcomes were compared between cohorts while adjusting for gender, age, smoking, number of operative levels, duration of symptoms, geographic region, and baseline scores.

**RESULTS:** There were no differences in age, gender, smoking status, number of operated levels, and baseline Nurick, NDI, and SF36v2 scores between the LP and LF groups. Preoperative mJOA was lower in the LP compared with the LF group (11.52±2.77 and 12.30±2.85, respectively, p=.0297). Patients in both groups showed significant improvements in mJOA, Nurick grade, NDI, and SF36v2 physical and mental health component scores 24 months after surgery (p<.0001). At 24 months, mJOA scores improved by 3.49 (95% confidence interval [CI]: 2.84, 4.13) in the LP group compared with 2.39 (95% CI: 1.91, 2.86) in the LF group (p=.0069). Nurick grades improved by 1.57 (95% CI: 1.23, 1.90) in the LP group and 1.18 (95% CI: 0.92, 1.44) in the LF group (p=.0770). There were no differences between the groups with respect to NDI and SF36v2 outcomes. After adjustment for preoperative characteristics, surgical factors and geographic region, the differences in mJOA between surgical groups were no longer significant. The rate of treatment-related complications in the LF group was 28.31% compared with 21.00% in the LP group (p=.1079).

**CONCLUSIONS:** Both LP and LF are effective at improving clinical disease severity, functional status, and quality of life in patients with DCM. In an unadjusted analysis, patients treated with LP achieved greater improvements on the mJOA at 24-month follow-up than those who received LF; however, these differences were insignificant following adjustment for relevant confounders.

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DOI: 10.1016/j.spinee.2016.08.019

PMID: 27597512 [Indexed for MEDLINE]

52: Gajuryal SH, Daga A, Siddharth V, Bal CS, Satpathy S. Unit Cost Analysis of PET-CT at an Apex Public Sector Health Care Institute in India. *Indian J Nucl Med.* 2017 Jan-Mar;32(1):1-6. doi: 10.4103/0972-3919.198438. PubMed PMID: 28242974; PubMed Central PMCID: PMC5317060.

**CONTEXT:** PET/CT scan service is one of the capital intensive and revenue-generating centres of a tertiary care hospital. The cost associated with the provisioning of PET services is dependent upon the unit costs of the resources consumed.

**AIMS:** The study aims to determine the cost of providing PET/CT Scan services in a hospital.

**METHODS AND MATERIAL:** This descriptive and observational study was conducted in the Department of Nuclear Medicine at a tertiary apex teaching hospital in New Delhi, India in the year 2014-15. Traditional costing methodology was used for calculating the unit cost of PET/CT scan service. The cost was calculated under two heads that is capital and operating cost. Annualized cost of capital assets was calculated using methodology prescribed by WHO and operating costs was taken on an actual basis.

**RESULTS:** Average number of PET/CT scan performed in a day is 30. The annual cost of providing PET/CT scan services was calculated to be 65,311,719 Indian Rupees (INR) (US\$ 1,020,496), while the unit cost of PET scan was calculated to be 9625.92 INR (US\$ 150). 3/4th cost was spent on machinery and equipment (75.3%) followed by healthcare personnel (11.37%), electricity (5%), consumables and



supplies (4%) engineering maintenance (3.24%), building, furniture and HVAC capital cost (0.76%), and manifold cost (0.05%). Of the total cost, 76% was capital cost while the remaining was operating cost.

CONCLUSIONS: Total cost for establishing PET/CT scan facility with cyclotron and chemistry module and PET/CT scan without cyclotron and chemistry module was calculated to be INR 610,873,517 (US\$9944899) and 226,745,158 (US\$3542893), respectively. (US\$ 1=INR 64).

DOI: 10.4103/0972-3919.198438

PMCID: PMC5317060

PMID: 28242974

Conflict of interest statement: There are no conflicts of interest.

53: Gan EY, Eleftheriadou V, Esmat S, Hamzavi I, Passeron T, Böhm M, Anbar T, Goh BK, Lan CE, Lui H, Ramam M, Raboobee N, Katayama I, Suzuki T, Parsad D, Seth V, Lim HW, van Geel N, Mulekar S, Harris J, Wittal R, Benzekri L, Gauthier Y, Kumarasinghe P, Thng ST, Silva de Castro CC, Abdallah M, Vrijman C, Bekkenk M, Seneschal J, Pandya AG, Ezzedine K, Picardo M, Taïeb A; VGICC. Repigmentation in vitiligo: position paper of the Vitiligo Global Issues Consensus Conference. *Pigment Cell Melanoma Res.* 2017 Jan;30(1):28-40. doi: 10.1111/pcmr.12561. PubMed PMID: 27864868.

The Vitiligo Global Issues Consensus Conference (VGICC), through an international e-Delphi consensus, concluded that 'repigmentation' and 'maintenance of gained repigmentation' are essential core outcome measures in future vitiligo trials. This VGICC position paper addresses these core topics in two sections and includes an atlas depicting vitiligo repigmentation patterns and color match. The first section delineates mechanisms and characteristics of vitiligo repigmentation, and the second section summarizes the outcomes of international meeting discussions and two e-surveys on vitiligo repigmentation, which had been carried out over 3 yr. Treatment is defined as successful if repigmentation exceeds 80% and at least 80% of the gained repigmentation is maintained for over 6 months. No agreement was found on the best outcome measure for assessing target or global repigmentation, therefore highlighting the limitations of e-surveys in addressing clinical measurements. Until there is a clear consensus, existing tools should be selected according to the specific needs of each study. A workshop will be conducted to address the remaining issues so as to achieve a consensus.

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DOI: 10.1111/pcmr.12561

PMID: 27864868

54: Garg B, Batra S, Dixit V. India contribution to Spine Surgery: 15 most influential articles. *J Clin Orthop Trauma.* 2017 Apr-Jun;8(2):181-184. doi: 10.1016/j.jcot.2016.12.012. Epub 2017 Jan 8. PubMed PMID: 28720999; PubMed Central PMCID: PMC5498759.

OBJECTIVE: To determine the number of articles published by Indian authors related to spine surgery and to enumerate the 15 most influential articles from India published in the field of spine surgery in national & international journals based on the citations they have received both in pubmed and google scholar.

MATERIAL AND METHODS: A retrospective study using Pubmed database was performed for the years between 1960 and 2015, for the articles published from India in the field of spine surgery in various national and international journals. A total of 3181 citations were received for top 15 most influential articles in the field of spine surgery from India.

RESULTS: A total of 885 papers from India were identified which were published by Indian authors related to spine surgery between year 1960 to 2015. The largest

numbers of papers were published in International journals such as Spine (82) and in European Spine Journal (47).

CONCLUSION: There are an increasing number of papers from India in the field of spine surgery literature. Most of the highly cited papers were related to tuberculosis. We expect further contributions from our country to the medical literature in the future.

DOI: 10.1016/j.jcot.2016.12.012

PMCID: PMC5498759 [Available on 2018-04-01]

PMID: 28720999

55: Garg B, Singla A, Batra S, Kumar S. Early migration of bone graft causing sigmoid colon perforation after trans-foraminal lumbar interbody fusion. J Clin Orthop Trauma. 2017 Apr-Jun;8(2):165-167. doi: 10.1016/j.jcot.2016.12.008. Epub 2017 Jan 2. PubMed PMID: 28720994; PubMed Central PMCID: PMC5498768.

BACKGROUND: Tran foraminal lumbar interbody fusion (TLIF) is a well accepted and standard technique of achieving spinal fusion using pedicle screws, cage and bone graft. We are presenting here a case of L4-L5 lumbar canal stenosis managed with TLIF that presented with sigmoid colon perforation due to bone graft migration 4 days after surgery.

CASE REPORT: A 35 years old female underwent open TLIF (from right side) with decompression for L4-L5 lumbar canal stenosis. On 4th post op day she started having abdominal pain and distension. After radiograph revealed gas under diaphragm emergency laparotomy was done and 1 by 1 cm sigmoid colon perforation seen near recto-sigmoid junction. Bony spicules with sharp edges were seen embedded inside the perforation.

DISCUSSION: The purpose of this case report is to present a rare complication and to raise awareness and high index of suspicion among spine surgeons for prevention, early detection and treatment.

DOI: 10.1016/j.jcot.2016.12.008

PMCID: PMC5498768 [Available on 2018-04-01]

PMID: 28720994

56: Garg P, Badhwar S, Jaryal AK, Kachhawa G, Deepak KK, Kriplani A. The temporal trend of vascular function in women with gestational diabetes. Vasc Med. 2017 Apr;22(2):96-102. doi: 10.1177/1358863X16678479. Epub 2017 Jan 28. PubMed PMID: 28132595.

The objective of the study was to assess the temporal changes in vascular function during pregnancy in healthy women and in those with gestational diabetes mellitus (GDM). Assessment of vascular function was done at three time points, 11-13(+6) weeks(+days), 20-22(+6) weeks(+days) and 30-32(+6) weeks(+days), by flow-mediated dilatation (FMD), augmentation index (AIx) and carotid-radial pulse wave velocity (crPWV) in women (n=100) with singleton pregnancies. Out of the 100 women, 20 developed GDM, who were compared with 20 healthy, age-matched pregnant women in a nested case-control design. Women with GDM had lower FMD% in the third compared to the first trimester (6.77 (4.36-9.96) vs 9.76 (6.66-16.61)%; p = 0.026); however, FMD% was similar on inter-group comparison between GDM and healthy pregnancies. AIx was significantly higher in GDM than healthy pregnancies at both first (15.35±10.57 vs 6.45±9.81%; p<0.05) and second trimesters (15.00±8.44 vs 2.50±9.01%; p<0.05). A higher AIx in early pregnancy differentiates women with GDM from those with healthy pregnancies.

DOI: 10.1177/1358863X16678479

PMID: 28132595 [Indexed for MEDLINE]

57: Garg R, Saini S, Kumar V, Gupta N. Emergency airway management of intratracheal tumor in a patient with respiratory distress. J Anaesthesiol Clin Pharmacol. 2017 Jan-Mar;33(1):133-134. doi: 10.4103/0970-9185.168258. PubMed PMID: 28413295; PubMed Central PMCID: PMC5374822.

58: Goel V, Kumar D, Lingaiah R, Singh S. Occurrence of Needlestick and Injuries among Health-care Workers of a Tertiary Care Teaching Hospital in North India. *J Lab Physicians*. 2017 Jan-Mar;9(1):20-25. doi: 10.4103/0974-2727.187917. PubMed PMID: 28042212; PubMed Central PMCID: PMC5015493.

**INTRODUCTION:** Occupational hazards such as accidental exposure to sharp, cuts, and splashes are common among health-care workers (HCWs).

**AIMS AND OBJECTIVES:** To determine the occurrence of self-reported occupational exposures to these hazards and to know the prevalent practices following the exposure. The second aim was to know the baseline antibody levels against hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV) immediately after these accidents.

**METHODS:** An observational prospective study was done in the HCWs of a tertiary care academic health organization of North India from January 2011 to December 2013. At the time of self-reporting of injury, a questionnaire was administered. Blood sample of HCWs and of the source, if identified, was collected for baseline HBV, HCV, and HIV serum markers. The exposed HCWs were followed up and repeat testing was done after 3-4 weeks for seroconversion up to 6 months.

**RESULTS:** A total of 476 injuries were reported. Needlestick injury of fingers was the most common. Doctors were found to have the highest exposure rate (73.7%) distantly followed by nurses (19.1%). A significant number of the HCWs (125, 26.3%) vaccinated in past had hepatitis B surface antibody (anti-HBs) titers <10 mIU/mL (protection defined as anti-HBs level  $\geq$ 10 mIU/ml). Only 44 sources were found to be seropositive (11 for HIV, 9 for HCV, and 24 for HBV). No seroconversion was seen in any of the exposed HCWs after 6 months.

**CONCLUSIONS:** The incidence of needlestick and sharp injuries is most often encountered in emergency wards. Anti-HBs titers were suboptimal in many of the HCWs requiring a booster dose of HBV vaccination.

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PMCID: PMC5015493

PMID: 28042212

59: Gosain M, Goel AD, Kharya P, Agarwal R, Amarchand R, Rai SK, Kapoor S, Paul VK, Krishnan A. Reduction of Neonatal Mortality Requires Strengthening of the Health System: A Situational Analysis of Neonatal Care Services in Ballabgarh. *J Trop Pediatr*. 2017 Jan 25. pii: fmw098. doi: 10.1093/tropej/fmw098. [Epub ahead of print] PubMed PMID: 28122945.

**BACKGROUND:** Planning a comprehensive program addressing neonatal mortality will require a detailed situational analysis of available neonatal-specific health infrastructure.

**METHODS:** We identified facilities providing essential and sick neonatal care (ENC, SNC) by a snowballing technique in Ballabgarh Block. These were assessed for infrastructure, human resource and equipment along with self-rated competency of the staff and compared with facility-based or population-based norms.

**RESULTS:** A total of 35 facilities providing ENC and 10 facilities for SNC were identified. ENC services were largely in the public-sector domain (68.5% of births) and were well distributed in the block. SNC burden was largely being borne by the private sector (66% of admissions), which was urban-based. The private sector and nurses reported lower competency especially for SNC. Only 53.9% of government facilities and 17.5% of private facilities had a fully equipped newborn care corner.

**CONCLUSIONS:** Serious efforts to reduce neonatal mortality would require major capacity strengthening of the health system, including that of the private sector.

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DOI: 10.1093/tropej/fmw098

PMID: 28122945

60: Goudra B, Singh PM. Airway Management During Upper GI Endoscopic Procedures: State of the Art Review. *Dig Dis Sci*. 2017 Jan;62(1):45-53. doi: 10.1007/s10620-016-4375-z. Epub 2016 Nov 12. Review. Erratum in: *Dig Dis Sci*. 2017 Feb;62(2):553-554. PubMed PMID: 27838810.

With the growing popularity of propofol mediated deep sedation for upper gastrointestinal (GI) endoscopic procedures, challenges are being felt and appreciated. Research suggests that management of the airway is anything but routine in this setting. Although many studies and meta-analyses have demonstrated the safety of propofol sedation administered by registered nurses under the supervision of gastroenterologists (likely related to the lighter degrees of sedation than those provided by anesthesia providers and is under medicolegal controversy in the United States), there is no agreement on the optimum airway management for procedures such as endoscopic retrograde cholangiopancreatography. Failure to rescue an airway at an appropriate time has led to disastrous consequences. Inability to evaluate and appreciate the risk factors for aspiration can ruin the day for both the patient and the health care providers. This review appraises the reader of various aspects of airway management relevant to the practice of sedation during upper GI endoscopy. New devices and modification of existing devices are discussed in detail. Recognizing the fact that appropriate monitoring is important for timely recognition and management of potential airway disasters, these issues are explored thoroughly.

DOI: 10.1007/s10620-016-4375-z  
PMID: 27838810 [Indexed for MEDLINE]

61: Goyal S, Julka PK. Recurrent osteosarcoma with calcified liver metastases: Uncommon development of a common disease. *J Cancer Res Ther*. 2017 Jan-Mar;13(1):139-141. doi: 10.4103/0973-1482.148672. PubMed PMID: 28508848.

Osteosarcoma is the commonest primary malignant bone tumor. Since bones lack a lymphatic system, metastatic spread in these tumors is exclusively hematogenous, the commonest sites being lungs and bone. We report a case of osteosarcoma humerus which recurred locally after primary therapy consisting of neoadjuvant chemotherapy and limb salvage surgery, who developed calcified liver metastases in addition to local and pulmonary relapse. Liver, though a common site of hematogenous spread in most solid tumors, has rarely been reported to be involved in metastatic osteosarcomas.

DOI: 10.4103/0973-1482.148672  
PMID: 28508848

62: Gulati S, Hossain S, Squires J. Editorial: Autism - Hype and Hope. *Indian J Pediatr*. 2017 Jan;84(1):42-43. doi: 10.1007/s12098-016-2262-4. Epub 2016 Nov 22. PubMed PMID: 27873154.

63: Gulati S, Patel H, Chakrabarty B, Dubey R, Arora NK, Pandey RM, Paul VK, Ramesh K, Anand V, Meena A. Development and validation of AIIMS modified INCLIN diagnostic instrument for epilepsy in children aged 1 month-18 years. *Epilepsy Res*. 2017 Feb;130:64-68. doi: 10.1016/j.epilepsyres.2017.01.008. Epub 2017 Jan 25. PubMed PMID: 28157600.

**OBJECTIVES:** There is shortage of specialists for the diagnosis of children with epilepsy, especially in resource limited settings. Existing INCLIN (International Clinical Epidemiology Network) instrument was validated for children aged 2-9 years. The current study validated modifications of the same including wider symptomatology and age group.

**METHODS:** The Modified INCLIN tool was validated by a team of experts by modifying the existing tools (2-9 years) to widen the age range from 1 month to 18 years and include broader symptomatology in a tertiary care teaching hospital of North India between January and June 2015. A qualified medical graduate applied the

candidate tool which was followed by gold standard evaluation by a Pediatric Neurologist (both blinded to each other).

RESULTS: A total of 197 children {128 boys (65%) and 69 girls (35%)}, with a mean age of 72.08 ( $\pm$ 50.96) months, completed the study. The sensitivity, specificity, positive and negative predictive value, positive and negative likelihood ratio of the modified epilepsy tool were 91.5% (84.5–96.1), 88.6% (80.0–93.5), 89.7% (81.9–95.3), 90.8% (83.7–95.7), 8 (6.6–9.8) and 0.09 (0.07–0.12) respectively.

SIGNIFICANCE: The new modified diagnostic instruments for epilepsy is simple, structured and valid instruments covering 1 month to 18 years for use in resource limited settings with acceptable diagnostic accuracy. All seizure semiologies as well as common seizure mimics like breath-holding spells are included in the tool. It also provides for identification of acute symptomatic and febrile seizures.

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DOI: 10.1016/j.eplepsyres.2017.01.008

PMID: 28157600

64: Gupta A, Aggrawal A, Setia P. A rare fatality due to calcified stylohyoid ligament (Eagle syndrome). *Med Leg J.* 2017 Jun;85(2):103–104. doi: 10.1177/0025817217695139. Epub 2017 Jan 1. PubMed PMID: 28508730.

The elongation or calcification of the stylohyoid ligament that leads to pressure symptoms, or entrapment of nearby glossopharyngeal nerve or carotid artery, is known as Eagle syndrome. A PubMed search leads to finding of rare fatality among the 49 reported cases. In the present case, the deceased was a 40-year-old male who choked on his food. We hypothesise that the impaction of food in the upper respiratory tract, as well as the inability to intubate the person, were both the result of the calcified stylohyoid ligament.

DOI: 10.1177/0025817217695139

PMID: 28508730

65: Gupta A, Kapil U. Effectiveness of Iron Supplementation in Reducing Iron Deficiency Anemia in India. *Indian J Community Med.* 2017 Jan-Mar;42(1):54–55. doi: 10.4103/0970-0218.199797. PubMed PMID: 28331256; PubMed Central PMCID: PMC5349006.

66: Gupta A, Gupta N. Ineffective Ventilation in A Neonate with A Large Pre-Carinal Tracheoesophageal Fistula and Bilateral Pneumonitis–Microcuff Endotracheal Tube to Our Rescue! *J Neonatal Surg.* 2017 Jan 1;6(1):14. doi: 10.21699/jns.v6i1.410. eCollection 2017 Jan-Mar. PubMed PMID: 28083500; PubMed Central PMCID: PMC5224747.

Tracheoesophageal fistula (TEF) is one of the most common congenital anomaly requiring surgical correction in neonatal period. The important goal of airway management is to avoid excessive gastric distension and ensure adequate ventilation prior to surgical ligation of the fistula. If a large fistula is present close to carina, excessive loss of delivered tidal volume may lead to ineffective ventilation. In addition, gastric distension elevates diaphragm and diminishes the lung compliance. If lung compliance is already impaired due to pre-existing lung pathology, situation becomes much more demanding. We report the successful airway management of a patient with large precarinal fistula and bilateral pneumonitis using the novel Microcuff tube. The unique design of microcuff makes it suitable to be used for this purpose. To the best of our knowledge, the use of microcuff ETT for perioperative airway management in case of a large precarinal fistula in a neonate with respiratory pathology has not been reported in the past.

DOI: 10.21699/jns.v6i1.410

PMCID: PMC5224747

67: Gupta A, Kharbanda OP, Balachandran R, Sardana V, Kalra S, Chaurasia S, Sardana HK. Precision of manual landmark identification between as-received and oriented volume-rendered cone-beam computed tomography images. *Am J Orthod Dentofacial Orthop.* 2017 Jan;151(1):118-131. doi: 10.1016/j.ajodo.2016.06.027. PubMed PMID: 28024764.

**INTRODUCTION:** The objective of this study was to evaluate the effect of the orientation of cone-beam computed tomography (CBCT) images on the precision and reliability of 3-dimensional cephalometric landmark identification.

**METHODS:** Ten CBCT scans were used for manual landmark identification. Volume-rendered images were oriented by aligning the Frankfort horizontal and transorbital planes horizontally, and the midsagittal plane vertically. A total of 20 CBCT images (10 as-received and 10 oriented) were anonymized, and 3 random sets were generated for manual landmark plotting by 3 expert orthodontists. Twenty-five landmarks were identified for plotting on each anonymized image independently. Hence, a total of 60 images were marked by the orthodontists. After landmark plotting, the randomized samples were decoded and regrouped into as-received and oriented data sets for analysis and comparison. Means and standard deviations of the x-, y-, and z-axis coordinates were calculated for each landmark to measure the central tendency. Intraclass correlation coefficients were calculated to analyze the interobserver reliability of landmark plotting in the 3 axes in both situations. Paired t tests were applied on the mean Euclidean distance computed separately for each landmark to evaluate the effect of 3-dimensional image orientation.

**RESULTS:** Interobserver reliability (intraclass correlation coefficient, >0.9) was excellent for all 25 landmarks for the x-, y-, and z-axes on both before and after orientation of the images. Paired t test results showed insignificant differences for the orientation of volume-rendered images for all landmarks except 3: R1 left (P = 0.0138), sella (P = 0.0490), and frontozygomatic left (P = 0.0493). Also midline structures such as Bolton and nasion were plotted more consistently or precisely than bilateral structures.

**CONCLUSIONS:** Orientation of the CBCT image does not enhance the precision of landmark plotting if each landmark is defined properly on multiplanar reconstruction slices and rendered images, and the clinician has sufficient training. The consistency of landmark identification is influenced by their anatomic locations on the midline, bilateral, and curved structures.

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DOI: 10.1016/j.ajodo.2016.06.027  
PMID: 28024764 [Indexed for MEDLINE]

68: Gupta A, Shukla G, Mohammed A, Goyal V, Behari M. Restless legs syndrome, a predictor of subcortical stroke: a prospective study in 346 stroke patients. *Sleep Med.* 2017 Jan;29:61-67. doi: 10.1016/j.sleep.2015.05.025. Epub 2015 Jul 20. PubMed PMID: 26323645.

**OBJECTIVE:** The objective of this study was to assess the prevalence of restless legs syndrome (RLS) among patients with stroke and to examine the anatomical correlation between location of stroke and RLS symptoms.

**METHODS:** We administered a pre-structured sleep questionnaire to consecutive stroke patients seen in our neurology services department over a 3-year period. Unconscious (Glasgow Coma Scale score <15) or aphasic, renally impaired, or neuropathic patients were excluded. Diagnosis of RLS was established according to the criteria of the International Restless Legs Syndrome Study Group (IRLSSG), and polysomnography was conducted.

**RESULTS:** Of 346 stroke patients, 35 (10.11%) fulfilled IRLSSG diagnostic criteria for RLS, which had existed for an average ( $\pm$ standard deviation) of  $60 \pm 40$  months before stroke. The mean age of onset was 52.94 ( $\pm 10.32$ ) years. Twenty-four patients (68%) had RLS symptoms contralateral to the hemisphere involved in the

stroke (eight with unilateral and 16 with grossly asymmetrical RLS). Twenty-nine of 35 patients (82.86%) had imaging evidence of subcortical (16 with hemorrhagic and 13 with ischemic) stroke. Patients with pre-stroke RLS differed from those without it only by subcortical location of the stroke (82.9% vs 31.5% respectively,  $p < 0.001$ ). The most significant differentiating factor between patients with subcortical stroke and those with cortical stroke was pre-stroke RLS (22.83% vs 2.74%,  $p < 0.001$ ), the others being history of hypertension and hemorrhagic stroke type.

CONCLUSION: RLS, especially unilateral or asymmetrical, might frequently pre-exist in patients presenting with subcortical stroke. The common laterality may suggest an important predictive value for RLS, and may form an important point for future research.

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DOI: 10.1016/j.sleep.2015.05.025

PMID: 26323645

69: Gupta A, Kapil U, Ramakrishnan L, Pandey RM, Yadav CP. Prevalence of Vitamin B(12) and Folate Deficiency in School Children Residing at High Altitude Regions in India. *Indian J Pediatr.* 2017 Apr;84(4):289-293. doi: 10.1007/s12098-017-2291-7. Epub 2017 Jan 21. PubMed PMID: 28108882.

OBJECTIVE: To assess the prevalence of vitamin B12 and folate deficiencies among children residing at high altitude regions of Himachal Pradesh, India.

METHODS: A total of 215 school children in the age group of 6-18 y were included. Biochemical estimation of serum vitamin B12 and folate levels was undertaken using chemiluminescence immunoassay method. The consumption pattern of foods high in dietary vitamin B12 and folate was recorded using Food Frequency Questionnaire.

RESULTS: The median levels (interquartile range) of serum vitamin B12 and folate were 326 (259-395) pg/ml and 7.7 (6-10) ng/ml respectively. The prevalence of vitamin B12 and folate deficiency amongst school age children was found as 7.4% and 1.5% respectively.

CONCLUSIONS: A low prevalence of vitamin B12 and folate deficiencies was found amongst children aged 6-18 y living at high altitude regions in India. This is possibly due to high frequency of consumption of foods rich in vitamin B12 and folate.

DOI: 10.1007/s12098-017-2291-7

PMID: 28108882

70: Gupta B, Garg N, Ramachandran R. Vasopressors: Do they have any role in hemorrhagic shock? *J Anaesthesiol Clin Pharmacol.* 2017 Jan-Mar;33(1):3-8. doi: 10.4103/0970-9185.202185. Review. PubMed PMID: 28413267; PubMed Central PMCID: PMC5374828.

The priority in the management of patients with traumatic hemorrhagic shock is to control the bleeding with simultaneous volume resuscitation to maintain adequate tissue perfusion. Fluid replacement remains the mainstay of initial resuscitation in hemorrhagic shock. Traditionally, vasopressors are contraindicated in the early management of hemorrhagic shock due to their deleterious consequences, although vasopressors may have a role in resuscitation when vasoplegic shock ensues and blood pressure cannot be maintained by fluids alone. Use of vasopressors is not recommended according to the Advanced Trauma Life Support® management principles. The role of vasopressors remains controversial with no clear guidelines on the timing, type, and dose of these drugs in hemorrhagic shock. Among vasopressors, norepinephrine and vasopressin have been used in the majority of the trials, although not many studies compare the effect of these two on long-term survival in trauma patients. This article reviews the pathophysiology of hemorrhagic shock, adverse effects of fluid resuscitation, and the various experimental and clinical studies on the use of vasopressors in the

early phase of resuscitation in hemorrhagic shock.

DOI: 10.4103/0970-9185.202185

PMCID: PMC5374828

PMID: 28413267

Conflict of interest statement: There are no conflicts of interest.

71: Gupta K, Bhari N, Verma KK, Gupta S. Permanent Injectable Polyacrylamide Hydrogel Dermal Filler for a Large Subcutaneous Defect Secondary to Lupus Panniculitis. *Dermatol Surg*. 2017 Jan;43(1):152-154. doi: 10.1097/DSS.0000000000000839. PubMed PMID: 27399948.

72: Gupta MK, Meena S, Anand S, Arya RK. Closed reduction and percutaneous pinning of supracondylar humerus fractures in children using a semi-sterile technique in a low resource south Asian setting: infection rate and functional outcome. *Trop Doct*. 2017 Jan 1:49475517716583. doi: 10.1177/0049475517716583. [Epub ahead of print] PubMed PMID: 28678003.

The purpose of this study was to determine infection rate and functional outcome after percutaneous pinning of supracondylar humeral fractures using a semi-sterile technique. A total of 183 children were treated in this fashion between 2008 and 2014. They were evaluated for postoperative infection and other complications. Clinical evaluation was made using Flynn's criteria. Only seven patients (4%) developed superficial pin tract infections, which all settled with pin tract dressings and oral antibiotics. Loss of reduction was seen in 22 (12%) patients, cubitus varus in six (3%) and nerve injury in four (2%). Outcome was excellent in 161 (88%), good in 15 (8%) and fair in seven (4%). These data demonstrate that the infection rate using this technique is low and the technique is simple to manage.

DOI: 10.1177/0049475517716583

PMID: 28678003

73: Gupta N, Agarwal R. Prophylactic sustained lung inflation followed by early CPAP vs. early CPAP at birth in extreme preterm neonates. *Acta Paediatr*. 2017 Mar;106(3):517. doi: 10.1111/apa.13692. Epub 2017 Jan 25. PubMed PMID: 28120525.

74: Gupta N, Jain P, Singh K, Bhattacharya S. Super-refractory Status Epilepticus with Hemophagocytic Syndrome in a Child with HIV Infection. *J Trop Pediatr*. 2017 Jan 14. pii: fmw101. doi: 10.1093/tropej/fmw101. [Epub ahead of print] PubMed PMID: 28088756.

75: Gupta S, Gupta A, Saini AK, Majumder K, Sinha K, Chahal A. Prostate Cancer: How Young is too Young? *Curr Urol*. 2017 Jan;9(4):212-215. doi: 10.1159/000447143. Epub 2016 Dec 26. PubMed PMID: 28413383; PubMed Central PMCID: PMC5385860.

Prostate cancer is the most common non-cutaneous malignancy in men. It is generally considered a cancer of the elderly, and the median age of presentation is 68 years. However 10% of new diagnoses in the USA occur in men aged  $\leq$  55 years. This may be due to more prevalent screening nowadays, and may also reflect the diagnosis of an increasingly recognized but underappreciated entity, i.e. early-onset prostate cancer. Patients with early onset prostate cancer pose unique challenges. Current data suggest that early-onset prostate cancer is a distinct phenotype-from both an etiological and clinical perspective- that deserves further attention. We present a case of a 28-year-old man who presented with lower urinary tract symptoms and was diagnosed with advanced stage prostate cancer.

DOI: 10.1159/000447143



PMCID: PMC5385860  
PMID: 28413383

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78: Gupta SK, Saxena A, Juneja R. Interventional therapy for partial anomalous pulmonary venous connection with dual drainage. *Ann Pediatr Cardiol*. 2017 Jan-Apr;10(1):82-83. doi: 10.4103/0974-2069.197072. PubMed PMID: 28163436; PubMed Central PMCID: PMC5241853.

A 6-year-old boy presented with dual drainage of left upper pulmonary vein, with connection to innominate vein in addition to its normal connection to the left atrium. Despite relief of aortic stenosis at the age of 3 years, significant left to right shunt persisted. The dual drainage allowed successful percutaneous closure of the levoatriocardinal vein without obstruction to the pulmonary venous flow to the left atrium.

DOI: 10.4103/0974-2069.197072  
PMCID: PMC5241853  
PMID: 28163436

Conflict of interest statement: There are no conflicts of interest.

79: Gupta V, Pandey PM, Gupta RK, Mridha AR. Rotary ultrasonic drilling on bone: A novel technique to put an end to thermal injury to bone. *Proc Inst Mech Eng H*. 2017 Mar;231(3):189-196. doi: 10.1177/0954411916688500. Epub 2017 Jan 24. PubMed PMID: 28116985.

Bone drilling is common in orthopedic procedures and the heat produced during conventional experimental drilling often exceeds critical temperature of 47 °C and induces thermal osteonecrosis. The osteonecrosis may be the reason for impaired healing, early loosening and implant failure. This study was undertaken to control the temperature rise by interrupted cutting and reduced friction effects at the interface of drill tool and the bone surface. In this work, rotary ultrasonic drilling technique with diamond abrasive particles coated on the hollow drill tool without any internal or external cooling assistance was used. Experiments were performed at room temperature on the mid-diaphysis sections of fresh pig bones, which were harvested immediately after sacrifice of the animal. Both rotary ultrasonic drilling on bone and conventional surgical drilling on bone were performed in a five set of experiments on each process using identical constant process parameters. The maximum temperature of each trial was recorded by K-type thermocouple device. Ethylenediaminetetraacetic acid decalcification was done for microscopic examination of bone. In this comparative procedure, rotary ultrasonic drilling on bone produced much lower temperature, that is, 40.2 °C±0.4 °C and 40.3 °C±0.2 °C as compared to that of conventional surgical drilling on bone, that is, 74.9 °C±0.8 °C and 74.9 °C±0.6 °C with respect to thermocouples fixed at first and second position, respectively. The conventional surgical drilling on bone specimens revealed gross tissue burn, microscopic evidence of thermal osteonecrosis and tissue injury in the form of cracks due to the generated force during drilling. But our novel technique showed no such features. Rotary ultrasonic drilling on bone technique is robust and superior to other methods for drilling as it induces no thermal osteonecrosis and does not damage the bone by generating undue forces during drilling.

DOI: 10.1177/0954411916688500

PMID: 28116985

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81: Gupta V, Gupta S. Genital lichen sclerosus developing around 'ectopic' urethral orifices supports the role of occlusion and urine in its pathogenesis. *Int J STD AIDS*. 2017 Aug;28(9):940-942. doi: 10.1177/0956462416688159. Epub 2017 Jan 12. PubMed PMID: 28081682.

Several factors such as genetic susceptibility, autoimmunity, hormones, infections, local trauma, urine, and occlusion have been speculated to play a role in the pathogenesis of lichen sclerosus. We report two male patients with lichen sclerosus around 'ectopic' urethral openings and the opposing surfaces of the penile shaft and scrotum, providing further evidence in support of urine and occlusion as contributing factors in the development of lichen sclerosus.

DOI: 10.1177/0956462416688159  
PMID: 28081682

82: Gupta VG, Bakhshi S. Pediatric Hematopoietic Stem Cell Transplantation in India: Status, Challenges and the Way Forward : Based on Dr. K. C. Chaudhuri Oration 2016. *Indian J Pediatr*. 2017 Jan;84(1):36-41. doi: 10.1007/s12098-016-2253-5. Epub 2016 Nov 10. Review. PubMed PMID: 27832477.

Hematopoietic stem cell transplantation (HSCT) refers to therapies that aim to eliminate a patient's hematopoietic and immune system and replace it with his own (autologous) or someone else's (allogenic) system. The applications of this therapy are vast and growing, and include several malignant and benign diseases incurable by any other existing modalities. Pediatric patients constitute a minority of HSCT recipients with unique concerns. Despite substantial progress in the last two decades, limitations due to financial, infrastructural, manpower and research constraints act as barriers to fulfilling the large need for pediatric HSCT services in our country. Limited availability of unrelated donors and cord blood units is another constraint. Here in this oration, we discuss the current issues pertaining to pediatric HSCT in India and describe our experience with the same.

DOI: 10.1007/s12098-016-2253-5  
PMID: 27832477

83: Gupta Y, Kapoor D, Desai A, Praveen D, Joshi R, Rozati R, Bhatla N, Prabhakaran D, Reddy P, Patel A, Tandon N. Conversion of gestational diabetes mellitus to future Type 2 diabetes mellitus and the predictive value of HbA(1c) in an Indian cohort. *Diabet Med*. 2017 Jan;34(1):37-43. doi: 10.1111/dme.13102. Epub 2016 Mar 17. PubMed PMID: 26926329.

AIM: To investigate the distribution of and risk factors for dysglycaemia (Type 2 diabetes and prediabetes) in women with previous gestational diabetes mellitus in India.

METHODS: All women (n = 989) from two obstetric units in New Delhi and Hyderabad with a history of gestational diabetes were invited to participate, of whom 366 (37%) agreed. Sociodemographic, medical and anthropometric data were collected and 75-g oral glucose tolerance test were carried out.

RESULTS: Within 5 years (median 14 months) of the pregnancy in which they were diagnosed with gestational diabetes, 263 (72%) women were dysglycaemic, including 119 (32%) and 144 (40%) with Type 2 diabetes and prediabetes, respectively. A higher BMI [odds ratio 1.16 per 1-kg/m<sup>2</sup> greater BMI (95% CI 1.10, 1.28)], presence of acanthosis nigricans [odds ratio 3.10, 95% CI (1.64, 5.87)], postpartum screening interval [odds ratio 1.02 per 1 month greater screening

interval 95% CI (1.01, 1.04)] and age [odds ratio 1.10 per 1-year older age 95% CI (1.04, 1.16)] had a higher likelihood of having dysglycaemia. The American Diabetes Association-recommended threshold HbA1c value of  $\geq 48$  mmol/mol (6.5%) had a sensitivity and specificity of 81.4 and 90.7%, respectively, for determining the presence of Type 2 diabetes postpartum.

**CONCLUSION:** The high post-pregnancy conversion rates of gestational diabetes to diabetes reported in the present study reinforce the need for mandatory postpartum screening and identification of strategies for preventing progression to Type 2 diabetes. Use of the American Diabetes Association-recommended HbA1c threshold for diabetes may lead to significant under-diagnosis.

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DOI: 10.1111/dme.13102

PMID: 26926329

84: Haq A, Svobodová J, Sofi NY, Jindrová A, Kába B, Rajah J, Al Anouti F, Abdel-Wareth L, Wimalawansa SJ, Razzaque MS. Vitamin D status among the juvenile population: A retrospective study. *J Steroid Biochem Mol Biol*. 2017 Jan 17. pii: S0960-0760(17)30005-5. doi: 10.1016/j.jsbmb.2017.01.005. [Epub ahead of print] PubMed PMID: 28108200.

Vitamin D deficiency is a clinical problem and recently we have shown that 82.5% of our entire study cohort had inadequate serum 25(OH)D levels. In this study, we analysed serum 25(OH)D levels of juvenile patients admitted to the Burjeel Hospital of VPS Health care in Abu Dhabi, United Arab Emirates (UAE) from October 2012 to September 2014. Out of a total of 7883 juvenile patients considered in this study, almost 58.1% of females and 43.3% of males in the age group of 1-18 years were found to have low serum 25(OH)D levels (<50nmol/L). According to the coefficient of variation, females had significantly higher variability among juveniles (63.8%) than males (49.9%). Among the juveniles group of patients, age appears to be an important determining factor for defining vitamin D deficiency. The risk of deficiency (<30nmol/L) was found to be present in 31.4% of patients in the age group of 10-12 years, followed by 50.4% of patients in the age group of 13-15 years and 52.9% of patients in the age group of 16-18 years. The analysed age groups of females were found to have lower levels of 25(OH)D than males. It is important and perhaps alarming to note that such high rate of vitamin D deficiency is present in the juvenile age.

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PMID: 28108200

85: Harsh P, Gupta V, Kedia S, Bopanna S, Pilli S, Surendernath, Makharia GK, Ahuja V. Prevalence of hepatitis B, hepatitis C and human immunodeficiency viral infections in patients with inflammatory bowel disease in north India. *Intest Res*. 2017 Jan;15(1):97-102. doi: 10.5217/ir.2017.15.1.97. Epub 2017 Jan 31. PubMed PMID: 28239319; PubMed Central PMCID: PMC5323314.

**BACKGROUND/AIMS:** Patients with inflammatory bowel disease (IBD) often require immunosuppressive therapy and blood transfusions and therefore are at a high risk of contracting infections due to hepatitis B (HBV) and hepatitis C (HCV) and human immunodeficiency virus (HIV). In the present study, we assessed the prevalence of these infections in patients with IBD.

**METHODS:** This retrospective study included 908 consecutive patients with IBD (ulcerative colitis [UC], n=581; Crohn's disease [CD], n=327) who were receiving care at a tertiary care center. Ninety-five patients with intestinal tuberculosis (ITB) were recruited as disease controls. Prospectively maintained patient databases were reviewed for the prevalence of HBV surface antigen, anti-HCV antibodies, and HIV (enzyme-linked immunosorbent assay method). HCV RNA was examined in patients who tested positive for anti-HCV antibodies. Prevalence data of the study were compared with that of the general Indian population (HBV, 3.7%;

HCV, 1%; HIV, 0.3%).

RESULTS: The prevalence of HBV, HCV, and HIV was 2.4%, 1.4%, and 0.1%, respectively, in the 908 patients with IBD. Among the 581 patients with UC, 2.2% (12/541) had HBV, 1.7% (9/517) had HCV, and 0.2% (1/499) had HIV. Among the 327 patients with CD, 2.8% (8/288) had HBV, 0.7% (2/273) had HCV, and 0% (0/277) had HIV. One patient with CD had HBV and HCV coinfection. The prevalence of HBV, HCV, and HIV in patients with ITB was 5.9% (4/67), 1.8% (1/57), and 1.2% (1/84), respectively.

CONCLUSIONS: The prevalence of HBV, HCV, and HIV in north Indian patients with IBD is similar to the prevalence of these viruses in the general community. Nonetheless, the high risk of flare after immunosuppressive therapy mandates routine screening of patients with IBD for viral markers.

DOI: 10.5217/ir.2017.15.1.97

PMCID: PMC5323314

PMID: 28239319

Conflict of interest statement: Conflict of interest: None.

86: Hasija S, Kapoor PM. Effect of heparin and Bivalirudin on the kinetics of clot formation: Viscoelastic coagulation testing. *Ann Card Anaesth.* 2017 Jan-Mar;20(1):122. doi: 10.4103/0971-9784.197855. PubMed PMID: 28074815; PubMed Central PMCID: PMC5290687.

87: Iqbal N, Kumar M, Sharma P, Yadav SP, Kaur P, Sharma S, Singh TP. Binding studies and structure determination of the recombinantly produced type-II 3-dehydroquinase dehydratase from *Acinetobacter baumannii*. *Int J Biol Macromol.* 2017 Jan;94(Pt A):459-465. doi: 10.1016/j.ijbiomac.2016.10.049. Epub 2016 Oct 18. PubMed PMID: 27769928.

Dehydroquinase (3-dehydroquinase dehydratase, DHQD, EC 4.2.1.10) catalyzes the conversion of dehydroquinase to dehydroshikimate. DHQD from *Acinetobacter baumannii* (AbDHQD) was cloned, expressed and purified to homogeneity. The binding studies showed that two compounds quinic acid and citrazinic acid bound to AbDHQD at micromolar concentrations. AbDHQD was crystallized using 30% PEG-3350, 50mM tris-HCl and 1.0M MgSO<sub>4</sub> at pH 8.0. Crystals of AbDHQD were stabilized with 25% glycerol for data collection at 100K. The X-ray intensity data were collected to 2.0Å resolution. Crystals belonged to monoclinic space group P2<sub>1</sub> with cell dimensions, a=82.3, b=95.3, c=132.3Å and β=95.7°. The structure was solved with molecular replacement method and refined to values of 0.200 and 0.232 for R<sub>cryst</sub> and R<sub>free</sub> factors. The structures of 12 crystallographically independent molecules in the asymmetry unit were identical with r.m.s shifts for the C(α) atoms ranging from 0.3Å to 0.8Å. They formed a dodecamer with four trimers arranged in a tetrahedral manner. The classical lid adopted an open conformation although a sulfate ion was observed in the substrate binding site. As a result of which, the compounds quinic acid and citrazinic acid could not bind to AbDHQD.

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DOI: 10.1016/j.ijbiomac.2016.10.049

PMID: 27769928 [Indexed for MEDLINE]

88: Jakhetiya A, Garg PK, Pandey R, Ramanathan P, Kumar S, Nath D, Pandey D. Surgical management of bronchopulmonary carcinoids: A single center experience. *South Asian J Cancer.* 2017 Jan-Mar;6(1):6-10. doi: 10.4103/2278-330X.202568. PubMed PMID: 28413786; PubMed Central PMCID: PMC5379900.

INTRODUCTION: Bronchopulmonary carcinoids are uncommon tumors with relatively indolent biological behavior but a distinct malignant potential. Surgery is the mainstay of treatment. Our aim was to study preoperative characteristics, surgical approaches, and outcome in patients with bronchopulmonary carcinoid tumors.

**PATIENTS AND METHODS:** This retrospective study was done in the Department of Surgical Oncology of a Tertiary Teaching Hospital of North India. The case records of all the patients who underwent surgical treatment for lung neoplasms and were diagnosed to have bronchopulmonary carcinoids were reviewed. Details concerning the clinical presentation, preoperative therapy, operative procedure, postoperative complications, and outcome were retrieved from the case records.

**RESULTS:** Sixteen patients who underwent surgical treatment were found to have bronchopulmonary carcinoids on histopathological examination. The median age of the patients was 34 years (range 18-62 years). There were 11 men and five women. All patients were symptomatic, and the median duration of symptoms was 12 months (range 6-72 months) before presentation. Six patients had received antitubercular treatment before presentation, and one patient had been treated with chemotherapy due to misdiagnosis. Surgical procedures included six pneumonectomies (one with carinoplasty), four bilobectomies, three lobectomies, and three bronchoplastic procedures (two with lobectomy and one with bilobectomy). There was no postoperative mortality; three patients had morbidity in the form of lobar collapse, prolonged pleural collection, and surgical site infection. With a median follow-up time of 11 months (range 2-85 months), all the 16 patients are alive and disease-free.

**CONCLUSIONS:** Delayed presentation and misdiagnosis of bronchial carcinoid are major concerns in North India. Adequate surgical resection can be performed without undue morbidity and is associated with good long-term results.

DOI: 10.4103/2278-330X.202568

PMCID: PMC5379900

PMID: 28413786

Conflict of interest statement: There are no conflicts of interest.

89: Jat KR. Vitamin D deficiency and lower respiratory tract infections in children: a systematic review and meta-analysis of observational studies. *Trop Doct.* 2017 Jan;47(1):77-84. Epub 2016 May 13. Review. PubMed PMID: 27178217.

Studies related to vitamin D deficiency and lower respiratory tract infections (LRTI) in children have inconsistent findings. The objective of this systematic review was to assess the prevalence of vitamin D deficiency in children with LRTI, and to evaluate the correlation between vitamin D levels and the incidence and severity of LRTI. A total of 12 studies enrolling 2279 participants were included in our analysis. Children with LRTI were found to have significantly lower mean vitamin D levels as compared to controls. There was likewise a correlation between vitamin D levels and incidence and severity of LRTI. Large randomised controlled trials are needed to evaluate effect of vitamin D supplementation for LRTI.

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PMID: 27178217 [Indexed for MEDLINE]

90: Jeemon P, Harikrishnan S, Sanjay G, Sivasubramonian S, Lekha TR, Padmanabhan S, Tandon N, Prabhakaran D. A PROgramme of Lifestyle Intervention in Families for Cardiovascular risk reduction (PROLIFIC Study): design and rationale of a family based randomized controlled trial in individuals with family history of premature coronary heart disease. *BMC Public Health.* 2017 Jan 5;17(1):10. doi: 10.1186/s12889-016-3928-6. PubMed PMID: 28056897; PubMed Central PMCID: PMC5217619.

**BACKGROUND:** Recognizing patterns of coronary heart disease (CHD) risk in families helps to identify and target individuals who may have the most to gain from preventive interventions. The overall goal of the study is to test the effectiveness and sustainability of an integrated care model for managing cardiovascular risk in high risk families. The proposed care model targets the structural and environmental conditions that predispose high risk families to

development of CHD through the following interventions: 1) screening for cardiovascular risk factors, 2) providing lifestyle interventions 3) providing a framework for linkage to appropriate primary health care facility, and 4) active follow-up of intervention adherence.

**METHODS:** Initially, a formative qualitative research component will gather information on understanding of diseases, barriers to care, specific components of the intervention package and feedback on the intervention. Then a cluster randomized controlled trial involving 740 families comprising 1480 participants will be conducted to determine whether the package of interventions (integrated care model) is effective in reducing or preventing the progression of CHD risk factors and risk factor clustering in families. The sustainability and scalability of this intervention will be assessed through economic (cost-effectiveness analyses) and qualitative evaluation (process outcomes) to estimate value and acceptability. Scalability is informed by cost-effectiveness and acceptability of the integrated cardiovascular risk reduction approach.

**DISCUSSION:** Knowledge generated from this trial has the potential to significantly affect new programmatic policy and clinical guidelines that will lead to improvements in cardiovascular health in India.

**TRIAL REGISTRATION NUMBER:** NCT02771873, registered in May 2016 (<https://clinicaltrials.gov/ct2/show/results/NCT02771873> ).

DOI: 10.1186/s12889-016-3928-6

PMCID: PMC5217619

PMID: 28056897

91: Johnson C, Mohan S, Rogers K, Shivashankar R, Thout SR, Gupta P, He FJ, MacGregor GA, Webster J, Krishnan A, Maulik PK, Reddy KS, Prabhakaran D, Neal B. Mean Dietary Salt Intake in Urban and Rural Areas in India: A Population Survey of 1395 Persons. *J Am Heart Assoc.* 2017 Jan 6;6(1). pii: e004547. doi: 10.1161/JAHA.116.004547. PubMed PMID: 28062480; PubMed Central PMCID: PMC5523637.

**BACKGROUND:** The scientific evidence base in support of population-wide salt reduction is strong, but current high-quality data about salt intake levels in India are mostly absent. This project sought to estimate daily salt consumption levels in selected communities of Delhi and Haryana in north India and Andhra Pradesh in south India.

**METHODS AND RESULTS:** In this study, 24-hour urine samples were collected using an age- and sex-stratified sampling strategy in rural, urban, and slum areas. Salt intake estimates were made for the overall population of each region and for major subgroups by weighting the survey data for the populations of Delhi and Haryana, and Andhra Pradesh. Complete 24-hour urine samples were available for 637 participants from Delhi and Haryana and 758 from Andhra Pradesh (65% and 68% response rates, respectively). Weighted mean population 24-hour urine excretion of salt was 8.59 g/day (95% CI 7.68–9.51) in Delhi and Haryana and 9.46 g/day (95% CI 9.06–9.85) in Andhra Pradesh (P=0.097). Estimates inflated to account for the minimum likely nonurinary losses of sodium provided corresponding estimates of daily salt intake of 9.45 g/day (95% CI 8.45–10.46) and 10.41 g/day (95% CI 9.97–10.84), respectively.

**CONCLUSIONS:** Salt consumption in India is high, with mean population intake well above the World Health Organization recommended maximum of 5 g/day. A national salt reduction program would likely avert much premature death and disability.

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PMCID: PMC5523637

PMID: 28062480

92: Kapil U, Pandey RM, Goswami R, Sharma B, Sharma N, Ramakrishnan L, Singh G, Sareen N, Sati HC, Gupta A, Sofi NY. Prevalence of Vitamin D deficiency and associated risk factors among children residing at high altitude in Shimla district, Himachal Pradesh, India. *Indian J Endocrinol Metab.* 2017

**INTRODUCTION:** Vitamin D is important for bone development in children. A high prevalence of Vitamin D deficiency (VDD) has been documented from different parts of India. However, limited data are available on VDD among children residing at high altitude region of country.

**OBJECTIVES:** To assess the prevalence of VDD and associated risk factors among children in the age group of 6-18 years in Shimla, Himachal Pradesh.

**METHODS:** A community-based cross-sectional study was conducted in the year 2014-2015. A total of 626 children in the age group of 6-18 years were enrolled from 30 clusters which were identified using population proportionate to size sampling method. A minimum of 20 children in the age group of 6-18 years per cluster were selected using random number tables. The data on socioeconomic status, physical activity, sunlight exposure, and biochemical parameters of bone and mineral metabolism were assessed.

**RESULTS:** Ninety-three percent of school-age children were found Vitamin D deficient as per serum 25(OH) D levels of <20 ng/ml. The prevalence was significantly higher among females.

**CONCLUSION:** A high prevalence of VDD was found in children residing in high altitude region.

DOI: 10.4103/2230-8210.196031

PMCID: PMC5240061

PMID: 28217519

Conflict of interest statement: There are no conflicts of interest.

93: Karthikeyan G, Shirodkar U, Lochan MR, Birch S. Appropriateness-based reimbursement of elective invasive coronary procedures in low- and middle-income countries: Preliminary assessment of feasibility in India. *Natl Med J India*. 2017 Jan-Feb;30(1):11-14. PubMed PMID: 28731000.

**BACKGROUND:** Elective coronary interventional procedures are often overused and sometimes inappropriately used. The incentives for overuse are greater in low- and middle-income countries, where much of healthcare is provided by poorly regulated, fee-for-service systems. Overuse and inappropriate use increase healthcare costs and are potentially harmful to patients. Linking appropriate use of elective procedures to their reimbursement might deter overuse.

**METHODS:** We explored the feasibility of introducing appropriateness criteria as a precondition to settling reimbursement claims in a publicly funded health insurance scheme in Maharashtra, India. Clinical algorithms were developed from the current best-practice criteria and used to determine appropriateness at the time of obtaining pre-authorization for elective percutaneous coronary intervention (PCI) and coronary artery bypass graft (CABG) surgeries. The number of PCIs as a proportion of the total number of procedures reimbursed under the scheme was the primary outcome measure. This proportion was compared for 1-year periods before and after implementation of appropriateness-based reimbursement, using the chi-square test. Comparisons were also made separately for public and private hospitals. The change in the proportion of CABG surgeries over the same time periods was used as a comparator (as they are less subject to inappropriate use).

**RESULTS:** The insurance scheme provided cover to a population of 20 424 585 (18.2% of the population of Maharashtra) in 8 districts, through 106 hospitals (73 private and 33 public). There was a 12.3% (95% CI 8.9%-15.5%, p=0.0001) reduction in the proportion of PCIs performed in the 1-year period after the introduction of appropriateness-based reimbursement. The reduction was similar for public and private hospitals. There was no significant change in the proportion of CABG surgeries (2.3% v. 2.2%, p=0.20). At current rates, use of appropriateness-based reimbursement would result in approximately 783 (95% CI 483-1099) less PCIs with potential annual savings of about ₹ 57 million (US\$ 0.93 million; 95% CI 0.57-1.3) to the government scheme.

**CONCLUSIONS:** It seems feasible to implement an appropriateness-based system for

reimbursement of elective coronary interventional procedures in a government-funded health insurance scheme in a developing country. This potentially cost-saving approach may reduce inappropriate use.

PMID: 28731000

94: Kashyap L, Gandhi AK, Pandey R, Sharma DN. Locally advanced carcinoma of the cervix associated with pelvic kidney treated with intensity-modulated radiotherapy: Overcoming a therapeutic challenge. *J Obstet Gynaecol Res.* 2017 Jan;43(1):238-242. doi: 10.1111/jog.13192. Epub 2016 Dec 8. PubMed PMID: 27928856.

The simultaneous occurrence of carcinoma of the cervix and pelvic kidney is rare. As the pelvic kidney occupies the conventional radiation portal for carcinoma of the cervix, treatment of these patients with radiation presents a therapeutic challenge. A 48-year-old stage IIIB cervical carcinoma patient with an incidental diagnosis of pelvic kidney was treated with radical chemoradiotherapy using intensity-modulated radiotherapy with concurrent weekly cisplatin, followed by intracavitary radiotherapy. The bilateral kidney dose was restricted within a tolerance limit of 16.6 Gy. At the 18-month follow-up, the patient was disease free and had no deterioration in kidney function. Intensity-modulated radiotherapy provided the necessary means for delivering radical radiation doses in this case scenario with adequate sparing of the kidney.

© 2016 Japan Society of Obstetrics and Gynecology.

DOI: 10.1111/jog.13192

PMID: 27928856 [Indexed for MEDLINE]

95: Katare PB, Bagul PK, Dinda AK, Banerjee SK. Toll-Like Receptor 4 Inhibition Improves Oxidative Stress and Mitochondrial Health in Isoproterenol-Induced Cardiac Hypertrophy in Rats. *Front Immunol.* 2017 Jun 22;8:719. doi: 10.3389/fimmu.2017.00719. eCollection 2017. PubMed PMID: 28690610; PubMed Central PMCID: PMC5479928.

**BACKGROUND:** Inflammation remains a crucial factor for progression of cardiac diseases and cardiac hypertrophy remains an important cause of cardiac failure over all age groups. As a key regulator of inflammation, toll-like receptor 4 (TLR4) plays an important role in pathogenesis of cardiac diseases. Being an important regulator of innate immunity, the precise pathway of TLR4-mediated cardiac complications is yet to be established. Therefore, the primary objective of the present study was to find the role of TLR4 in cardiac hypertrophy and the molecular mechanism thereof.

**METHODS:** Cardiac hypertrophy was induced with administration of isoproterenol (5mg/kg/day, sc). TLR4 receptor inhibitor RS-LPS (lipopolysaccharide from the photosynthetic bacterium *Rhodobacter sphaeroides*; 5µg/day) and agonist lipopolysaccharide (LPS) (from *Escherichia coli*; 3.12µg/day) were administered through osmotic pump along with isoproterenol. Cardiac hypertrophy as well as oxidative stress and mitochondrial parameters were evaluated.

**RESULTS:** Cardiac hypertrophy was confirmed with increased heart weight/body weight ratio as well as assessment of hypertrophic markers in heart. There was a marked increase in the TLR4 expression and oxidative stress along with mitochondrial dysfunction in ISO group. TLR4 inhibition significantly decreased heart weight/body weight ratio and ANP, collagen, and  $\beta$ -MHC expression and restored the disturbed cellular antioxidant flux. The mitochondrial perturbations that were observed in hypertrophy heart was normalized after administration of TLR4 inhibitor but not with the agonist. TLR4 agonism further exaggerated the oxidative stress in heart and hence accelerated the disease development and progression.

**CONCLUSION:** Our data show that increased TLR4 ligand pool in cardiac hypertrophy may exaggerate the disease progression. However, inhibition of TLR4 attenuated cardiac hypertrophy through reduced cardiac redox imbalance and mitochondrial



dysfunction.

DOI: 10.3389/fimmu.2017.00719

PMCID: PMC5479928

PMID: 28690610

96: Kathirvel M, Subramani V, Subramanian VS, Swamy ST, Arun G, Kala S. Dosimetric comparison of head and neck cancer patients planned with multivendor volumetric modulated arc therapy technology. *J Cancer Res Ther.* 2017 Jan-Mar;13(1):122-130. doi: 10.4103/0973-1482.203600. PubMed PMID: 28508845.

AIM: Purpose of this study is to dosimetrically compare head and neck (H and N) cancer patients planned with multivendor volumetric modulated arc therapy (VMAT) technology. VMAT treatment planning can be done using biological (treatment planning system [TPSB]: Monaco) or physical (TPSP: Eclipse)-based cost function optimization techniques. Planning and dosimetric comparisons were done in both techniques for H and N cases.

MATERIALS AND METHODS: Twenty H and N patients were retrospectively selected for this study. VMAT plans were generated using TPSP (V11.0) and TPSB (V3.0) TPS. A total dose of 66 Gy (planning target volume 1 [PTV1]) and 60 Gy (PTV2) were prescribed to primary and nodal target volumes. Clinical planning objectives were achieved by both the optimization techniques. Dosimetric parameters were calculated for PTVs, and quantitative analyses were performed for critical organs. Monitor units were compared between two TPSs, and gamma analysis was performed between I'matriXX measured and TPS calculated.

RESULTS: Clinically, acceptable VMAT plans showed comparable dose distributions between TPSB and TPSP optimization techniques. Comparison of mean dose, homogeneity index, and conformity index for PTV1 showed no statistical difference ( $P = 0.922$ ,  $0.096$ , and  $0.097$ ); however, in PTV2 statistically significant difference was observed ( $P = 0.024$ ,  $0.008$ , and  $0.002$ ) between TPSB and TPSP. TPSB optimization showed statistically significant superiority for spinal cord and brainstem ( $D1\% P = 0.0078$ ,  $0.00002$ ) whereas improved parotid sparing was observed in TPSP optimization (mean dose  $P = 0.00205$ ). Gamma analysis illustrated that both systems could produce clinically deliverable plans.

CONCLUSION: VMAT plans by TPSP and TPSB offered clinically acceptable dose distributions. TPSB-based optimization showed enhanced sparing of serial organs whereas TPSP-based optimization showed superior sparing of parallel organs.

DOI: 10.4103/0973-1482.203600

PMID: 28508845

97: Kaur M, Titiyal JS, Falera R, Arora T, Sharma N. Outcomes of Descemet Stripping Automated Endothelial Keratoplasty in Toxic Anterior Segment Syndrome After Phacoemulsification. *Cornea.* 2017 Jan;36(1):17-20. PubMed PMID: 27811562.

PURPOSE: To evaluate the visual and anatomical outcomes of Descemet stripping automated endothelial keratoplasty (DSAEK) in patients with toxic anterior segment syndrome (TASS).

METHODS: Fourteen eyes of 14 patients who underwent clear corneal DSAEK for endothelial decompensation secondary to TASS after phacoemulsification were included in this prospective study. Intraoperative surgical difficulties were noted. Preoperative and postoperative evaluation of visual acuity, slit-lamp examination, intraocular pressure, central corneal thickness, and endothelial count was performed in all cases.

RESULTS: The interval between onset of TASS and DSAEK was  $9 \pm 3.8$  months (range: 2-15 months). Intraoperative difficulties were encountered during Descemet membrane scoring, and a floppy iris with extensive pigment release was observed. The postoperative inflammatory response was more intense with the formation of a characteristic pigment ring at the host-graft junction. Secondary glaucoma developed in 57.1% (8/14) cases. All grafts were attached postoperatively. In 2 patients, DSAEK was undertaken within 3 months of occurrence of TASS. Both cases required a regraft with eventual graft failure. In the subsequent 12 cases, DSAEK was performed more than 3 months after TASS. All 12 grafts were clear with no

episode of graft rejection, and the corrected visual acuity ranged from 6/18 to 6/9.

CONCLUSIONS: Successful visual and anatomical outcomes are achieved with DSAEK in cases of chronic TASS. The time interval between TASS and DSAEK is a critical factor determining long-term success, and a minimum 3- to 6-month waiting period after TASS is essential for optimal outcomes. Preoperative and postoperative control of inflammation and intraocular pressure is necessary to enhance graft survival.

DOI: 10.1097/ICO.0000000000001067

PMID: 27811562 [Indexed for MEDLINE]

98: Kavitha TK, Gupta N, Kabra SK, Lodha R. Association of Serum Vitamin D Levels with Level of Control of Childhood Asthma. *Indian Pediatr.* 2017 Jan 15;54(1):29-32. PubMed PMID: 28141562.

OBJECTIVE: To study the association between serum vitamin D levels and levels of asthma control in children aged 5-15 years.

METHODS: Children with physician-diagnosed asthma who were under follow-up for at least 6 months were enrolled. Participants were categorized into three asthma control groups as per standard guidelines, and their serum 25-hydroxy vitamin D levels and pulmonary function tests were compared.

Results: Out of 105 children with asthma enrolled in the study, 50 (47.6%) were controlled, 32 (30.5%) were partly controlled and 23 (21.9%) were uncontrolled. Median (IQR) serum vitamin D levels in these three groups were 9.0 (6.75, 15) ng/mL, 10 (6.25, 14.75) ng/mL and 8 (5, 10) ng/mL ( $P=0.24$ ), respectively.

CONCLUSION: We did not observe any association of serum 25-hydroxy vitamin D levels with the level of control of childhood asthma.

PMID: 28141562 [Indexed for MEDLINE]

99: Kedia S, Sharma R, Bopanna S, Makharia G, Ahuja V. Predictive Model for Differentiating Crohn's Disease and Intestinal Tuberculosis: The Story Is Incomplete Without Imaging. *Am J Gastroenterol.* 2017 Jan;112(1):188-189. doi: 10.1038/ajg.2016.490. PubMed PMID: 28050042.

100: Khan MA, Zafaryab M, Mehdi SH, Quadri J, Rizvi MM. Characterization and carboplatin loaded chitosan nanoparticles for the chemotherapy against breast cancer in vitro studies. *Int J Biol Macromol.* 2017 Apr;97:115-122. doi: 10.1016/j.ijbiomac.2016.12.090. Epub 2017 Jan 9. PubMed PMID: 28082219.

Aim of the studies to synthesized chitosan nanoparticles by an ionic interaction procedure. The nanoparticles were characterized by physicochemical methods like, DLS, TEM, Surface potential measurements, FT-IR and DSC. The average particle size of chitosan and carboplatin nanoparticles was found to be  $277.25\pm 11.37\text{nm}$  and  $289.30\pm 8.15\text{nm}$  and zeta potential was found to be  $31\pm 3.14\text{mV}$  and  $33\pm 2.15\text{mV}$  respectively with low polydispersity index. The maximum entrapment of carboplatin in nanoparticles was a spherical shape with a positive charge. The maximum encapsulation and loading efficiencies of carboplatin (5mg/ml) were obtained to be 58.43% and 13.27% respectively. The nanocarboplatin was better blood compatibility as compared to chitosan nanoparticles. Finally, the cytotoxic effects of the carboplatin loaded chitosan nanoparticles were tested in-vitro against breast cancer (MCF-7) cell lines. Our studies showed that the chitosan nanoparticles could be used as a promising candidate for drug delivery for the therapeutic treatment of breast cancer.

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DOI: 10.1016/j.ijbiomac.2016.12.090

PMID: 28082219 [Indexed for MEDLINE]

101: Khandelwal A, Kaushal A, Singh GP, Dube SK. Suction catheter as a crucial rescuer in lost tracheostomy tract situation during percutaneous tracheostomy. *Saudi J Anaesth.* 2017 Jan-Mar;11(1):129-130. doi: 10.4103/1658-354X.197363. PubMed PMID: 28217079; PubMed Central PMCID: PMC5292843.

102: Khandelwal A, Jena BR, Kumar N, Kaushal A. Hypermobility laryngeal granulomas: a potential cause of false negative cuff leak test. *Anaesthesiol Intensive Ther.* 2017;49(1):77-78. doi: 10.5603/AIT.2017.0013. PubMed PMID: 28362036.

103: Khanna G, Damle NA, Agarwal S, Roy M, Jain D, Mallick S, Ahmed S, Tripathi M, Gogia A. Mixed Phenotypic Acute Leukemia (mixed myeloid/B-cell) with Myeloid Sarcoma of the Thyroid Gland: A Rare Entity with Rarer Association - Detected on FDG PET/CT. *Indian J Nucl Med.* 2017 Jan-Mar;32(1):46-49. doi: 10.4103/0972-3919.198478. PubMed PMID: 28242986; PubMed Central PMCID: PMC5317071.

Mixed phenotypic acute leukemia (MPAL) is a rare clinical entity. MPAL associated with myeloid sarcoma (MS) is still rarer with only three cases mentioned in English literature. MS has been described in myriads of location, most commonly in skin, gums and lymph nodes. Although theoretically possible, it is very rare to find MS involving the thyroid gland. The diagnosis of MS can be elusive, very often masquerades and mislabeled as lymphoma. A high index of clinical suspicion coupled with PET/CT findings along with morphological clues and thorough peripheral blood, and bone marrow evaluation is mandatory for arriving at the definitive diagnosis. We report the case of a 58-year-old female presenting with thyroid swelling that was subsequently diagnosed to be MS of the thyroid with underlying MPAL (mixed myeloid/B-cell) only after (18)F-FDG PET/CT, which revealed an unusual abnormal pattern of multifocal intense FDG uptake in the thyroid gland.

DOI: 10.4103/0972-3919.198478

PMCID: PMC5317071

PMID: 28242986

Conflict of interest statement: There are no conflict of interest

104: Khatua TN, Borkar RM, Mohammed SA, Dinda AK, Srinivas R, Banerjee SK. Novel Sulfur Metabolites of Garlic Attenuate Cardiac Hypertrophy and Remodeling through Induction of Na(+)/K(+)-ATPase Expression. *Front Pharmacol.* 2017 Jan 30;8:18. doi: 10.3389/fphar.2017.00018. eCollection 2017. PubMed PMID: 28194108; PubMed Central PMCID: PMC5276815.

Epidemiologic studies show an inverse correlation between garlic consumption and progression of cardiovascular disease. However, the molecular basis for the beneficial effect of garlic on the heart is not known. Therefore, the objective of the present study was to (1) investigate the effect of raw garlic on isoproterenol (Iso) induced cardiac hypertrophy (2) find the active metabolites of garlic responsible for the beneficial effect. Cardiac hypertrophy was induced in rats by subcutaneous single injection of Iso 5 mg kg<sup>-1</sup> day<sup>-1</sup> for 15 days and the effect of garlic (250 mg/kg/day orally) was evaluated. Garlic metabolites in vivo were identified by LC/MS study. The effect of garlic and its metabolites were evaluated against hypertrophy in H9C2 cells. Garlic normalized cardiac oxidative stress after Iso administration. Cardiac pathology and mitochondrial enzyme activities were improved in hypertrophy heart after garlic administration. Decreased Na(+)/K(+)-ATPase protein level that observed in hypertrophy heart was increased after garlic administration. We identified three garlic metabolites in rat serum. To confirm the role of garlic metabolites on cardiac hypertrophy, Na(+)/K(+)-ATPase expression and intracellular calcium levels were measured after treating H9C2 cells with raw garlic and two of its active metabolites, allyl methyl sulfide and allyl methyl sulfoxide. Raw garlic and both metabolites increased Na(+)/K(+)-ATPase protein level and decreased

intracellular calcium levels and cell size in Iso treated H9C2 cells. This antihypertrophic effect of garlic and its sulfur metabolites were lost in H9C2 cells in presence of Na(+)/K(+)-ATPase inhibitor. In conclusion, garlic and its active metabolites increased Na(+)/K(+)-ATPase in rat heart, and attenuated cardiac hypertrophy and associated remodeling. Our data suggest that identified new garlic metabolites may be useful for therapeutic intervention against cardiac hypertrophy.

DOI: 10.3389/fphar.2017.00018

PMCID: PMC5276815

PMID: 28194108

105: Khokhar S, Aron N, Sen S, Pillay G, Agarwal E. Effect of balanced phacoemulsification tip on the outcomes of torsional phacoemulsification using an active-fluidics system. *J Cataract Refract Surg.* 2017 Jan;43(1):22-28. doi: 10.1016/j.jcrs.2016.11.034. PubMed PMID: 28317673.

**PURPOSE:** To compare the outcomes of torsional phacoemulsification with a new balanced tip (Intrepid) and a conventional tip (Kelman) using a single active-fluidics torsional phacoemulsification machine (Centurion).

**SETTING:** Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, India.

**DESIGN:** Prospective comparative case-control study.

**METHODS:** Patients with senile cataract had torsional phacoemulsification with the Kelman conventional tip or the new Intrepid balanced tip using the active-fluidics torsional machine. Intraoperative parameters, such as cumulative dissipated energy (CDE), total ultrasound (US) time, torsion use time, torsion amplitude, aspiration time, and fluid use, were noted and compared. Endothelial cell loss and central corneal thickness (CCT) changes were evaluated at 1 month.

**RESULTS:** The new tip showed significantly less CDE, total US time, torsion amplitude, aspiration time, and fluid use ( $8.55 \pm 6.9$  [SD],  $33.59 \pm 28.12$  seconds,  $37.8 \pm 13.42$ ,  $173.19 \pm 47.26$  seconds, and  $66.59 \pm 20.44$  mL, respectively) than the conventional tip ( $13.47 \pm 10.65$ ,  $42.8 \pm 33.46$  seconds,  $42.58 \pm 16.38$ ,  $202.25 \pm 71.28$  seconds, and  $97.14 \pm 36.86$  mL, respectively) ( $P < .01$ ), especially in higher grades of cataract. Anterior capsulorhexis margin tear occurred in 2 patients with the new tip. There were no corneal burns in either group. The mean endothelial cell loss and the percentage change in CCT were not significantly different at 1 month.

**CONCLUSIONS:** The new balanced tip performed phacoemulsification more efficiently, especially in hard cataracts requiring higher energy and prolonged phacoemulsification time.

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PMID: 28317673

106: Kim TK, Phillips M, Bhandari M, Watson J, Malhotra R. What Differences in Morphologic Features of the Knee Exist Among Patients of Various Races? A Systematic Review. *Clin Orthop Relat Res.* 2017 Jan;475(1):170-182. doi: 10.1007/s11999-016-5097-4. Epub 2016 Oct 4. Review. Erratum in: *Clin Orthop Relat Res.* 2017 Mar 2;:. Erratum in: *Clin Orthop Relat Res.* 2017 May;475(5):1507. PubMed PMID: 27704318; PubMed Central PMCID: PMC5174057.

**BACKGROUND:** Most TKA prostheses are designed based on the anatomy of white patients. Individual studies have identified key anthropometric differences between the knees of the white population and other major ethnic groups, yet there is limited understanding of what these findings may indicate if analyzed collectively.

**QUESTION/PURPOSE:** What are the differences in morphologic features of the distal femur and proximal tibia among and within various ethnicities?

**METHODS:** A systematic review of the PubMed database and a hand-search of article bibliographies identified 235 potentially eligible English-language studies.

Studies were excluded if they did not include morphology results or had insufficient data for analysis, were unrelated to the distal femur or proximal tibia, were conducted in pediatric patients or those undergoing unicompartmental knee arthroplasty, or bone surface measurements were obtained for trauma products. This left 30 eligible studies (9050 knees). Study quality was assessed and reported as good, fair, or poor according to the NIH Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies. Morphometric data for the distal femur and proximal tibia were available for four ethnic groups: East Asian (23 studies; 5543 knees), white (11 studies; 3111 knees), Indian (three studies; 283 knees), and black (three studies; 113 knees). Although relatively underrepresented, the knees from the Indian and black studies were maintained for hypothesis-generating purposes and to highlight crucial gaps in the data. The two key dimensions for selecting a suitable implant based on a patient's unique anatomy—AP length and mediolateral (ML) width—were assessed for the femur and tibia, in addition to aspect ratio, calculated by dividing the ML width by the AP length. Study measurement techniques were compared visually when possible to ensure that each pooled study conducted a similar measurement process. Any significant measurement outliers were reviewed for eligibility to determine if the measurement techniques and landmarks used were comparable to the other studies included.

**RESULTS:** White patients had larger femoral AP measurements than East Asians (62 mm, [95% CI, 57-66 mm] vs 59 mm, [95% CI, 54-63 mm]; mean difference, 3 mm;  $p < 0.001$ ), a smaller femoral aspect ratio than East Asians (1.20, [95% CI, 1.11-1.29] vs 1.25, [95% CI, 1.16-1.34]; mean difference, 0.05;  $p = 0.001$ ), and a larger tibial aspect ratio than black patients (1.55, [95% CI, 1.40-1.71] vs 1.49, [95% CI, 1.33-1.64]; mean difference, 0.06;  $p = 0.005$ ).

**CONCLUSIONS:** This analysis uncovered differences of size (AP height and ML width of the femur and tibia) and shape (tibial and femoral aspect ratios) among knees from white, East Asian, and black populations. Future research is needed to understand the clinical implications of these discrepancies and to provide additional data with underrepresented groups.

DOI: 10.1007/s11999-016-5097-4

PMCID: PMC5174057

PMID: 27704318 [Indexed for MEDLINE]

107: Kiserud T, Piaggio G, Carroli G, Widmer M, Carvalho J, Neerup Jensen L, Giordano D, Cecatti JG, Abdel Aleem H, Talegawkar SA, Benachi A, Diemert A, Tshefu Kitoto A, Thinkhamrop J, Lumbiganon P, Tabor A, Kriplani A, Gonzalez Perez R, Hecher K, Hanson MA, Gülmezoglu AM, Platt LD. The World Health Organization Fetal Growth Charts: A Multinational Longitudinal Study of Ultrasound Biometric Measurements and Estimated Fetal Weight. *PLoS Med.* 2017 Jan 24;14(1):e1002220. doi: 10.1371/journal.pmed.1002220. eCollection 2017 Jan. Erratum in: *PLoS Med.* 2017 Mar 24;14(3):e1002284. PubMed PMID: 28118360; PubMed Central PMCID: PMC5261648.

**BACKGROUND:** Perinatal mortality and morbidity continue to be major global health challenges strongly associated with prematurity and reduced fetal growth, an issue of further interest given the mounting evidence that fetal growth in general is linked to degrees of risk of common noncommunicable diseases in adulthood. Against this background, WHO made it a high priority to provide the present fetal growth charts for estimated fetal weight (EFW) and common ultrasound biometric measurements intended for worldwide use.

**METHODS AND FINDINGS:** We conducted a multinational prospective observational longitudinal study of fetal growth in low-risk singleton pregnancies of women of high or middle socioeconomic status and without known environmental constraints on fetal growth. Centers in ten countries (Argentina, Brazil, Democratic Republic of the Congo, Denmark, Egypt, France, Germany, India, Norway, and Thailand) recruited participants who had reliable information on last menstrual period and gestational age confirmed by crown-rump length measured at 8-13 wk of gestation. Participants had anthropometric and nutritional assessments and seven scheduled ultrasound examinations during pregnancy. Fifty-two participants withdrew consent, and 1,387 participated in the study. At study entry, median maternal age

was 28 y (interquartile range [IQR] 25-31), median height was 162 cm (IQR 157-168), median weight was 61 kg (IQR 55-68), 58% of the women were nulliparous, and median daily caloric intake was 1,840 cal (IQR 1,487-2,222). The median pregnancy duration was 39 wk (IQR 38-40) although there were significant differences between countries, the largest difference being 12 d (95% CI 8-16). The median birthweight was 3,300 g (IQR 2,980-3,615). There were differences in birthweight between countries, e.g., India had significantly smaller neonates than the other countries, even after adjusting for gestational age. Thirty-one women had a miscarriage, and three fetuses had intrauterine death. The 8,203 sets of ultrasound measurements were scrutinized for outliers and leverage points, and those measurements taken at 14 to 40 wk were selected for analysis. A total of 7,924 sets of ultrasound measurements were analyzed by quantile regression to establish longitudinal reference intervals for fetal head circumference, biparietal diameter, humerus length, abdominal circumference, femur length and its ratio with head circumference and with biparietal diameter, and EFW. There was asymmetric distribution of growth of EFW: a slightly wider distribution among the lower percentiles during early weeks shifted to a notably expanded distribution of the higher percentiles in late pregnancy. Male fetuses were larger than female fetuses as measured by EFW, but the disparity was smaller in the lower quantiles of the distribution (3.5%) and larger in the upper quantiles (4.5%). Maternal age and maternal height were associated with a positive effect on EFW, particularly in the lower tail of the distribution, of the order of 2% to 3% for each additional 10 y of age of the mother and 1% to 2% for each additional 10 cm of height. Maternal weight was associated with a small positive effect on EFW, especially in the higher tail of the distribution, of the order of 1.0% to 1.5% for each additional 10 kg of bodyweight of the mother. Parous women had heavier fetuses than nulliparous women, with the disparity being greater in the lower quantiles of the distribution, of the order of 1% to 1.5%, and diminishing in the upper quantiles. There were also significant differences in growth of EFW between countries. In spite of the multinational nature of the study, sample size is a limiting factor for generalization of the charts.

CONCLUSIONS: This study provides WHO fetal growth charts for EFW and common ultrasound biometric measurements, and shows variation between different parts of the world.

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PMCID: PMC5261648

PMID: 28118360 [Indexed for MEDLINE]

Conflict of interest statement: I have read the journal's policy and the authors of this manuscript have the following competing interests: GP is a WHO statistical consultant and has a contract to give statistical support to the Fetal Growth Study. GP has worked with WHO for 15 years and has a relationship with WHO, both paid (contracts) and unpaid. GP is also a good friend of many of the investigators involved in this study. LDP is a Board Member of the Perinatal Quality Foundation, a nonprofit organization related to the Society for Maternal Fetal Medicine. LDP has received research support from General Electric Medical Systems unrelated to fetal growth. LDP also lectures 1 or 2 times per year at an educational meeting supported by General Electric Medical Systems unrelated to fetal growth.

108: Kohli A, Siddhu A, Pandey RM, Reddy KS. Relevance of the triglyceride-to-high-density lipoprotein cholesterol ratio as an important lipid fraction in apparently healthy, young, and middle-aged Indian men. *Indian J Endocrinol Metab.* 2017 Jan-Feb;21(1):113-118. doi: 10.4103/2230-8210.196020. PubMed PMID: 28217509; PubMed Central PMCID: PMC5240051.

CONTEXT: Cardiovascular disease (CVD) is the largest cause of mortality in Indians. Insulin resistance and related dyslipidemia of increased triglyceride (TG), small dense low-density lipoprotein (sd-LDL) particles, and decreased high-density lipoprotein-cholesterol (HDL-C) are associated with increased risk of CVD. TG/HDL-C ratio could be a potential surrogate marker for this South Asian phenotype. Data are scarce on the relevance of TG/HDL-C ratio as a useful lipid

marker among Indians.

**AIMS:** To study the prevalence of TG/HDL-C ratio among healthy, young, and middle-aged Indian men (25-44 years) and its relationship with other lipid and nonlipid factors.

**SUBJECTS AND METHODS:** In this cross-sectional analysis, fasting blood samples from 236 healthy participants recruited from an urban community setting were tested for TG/HDL-C ratio, HDL-C, TG, total cholesterol (TC), non-HDL-C, TC/HDL-C, high-sensitivity C-reactive protein, body mass index (BMI), and body fat.

**RESULTS:** Mean (standard deviation) age of participants was 34.7 (7.7) years; median (interquartile range) TG/HDL-C ratio was 4 (2.85-5.2). More than half (51.3%) the participants (n = 121) recorded abnormal TG/HDL-C ratio ( $\geq 4.0$ ). Across tertiles of TG/HDL-C ratio, there was a significant trend of higher conventional lipid parameters such as non-HDL-C\*, TC/HDL-C ratio\*, TG\*, HDL-C\*, TC\*\*; and non-lipid parameters body-fat\* and BMI\*\*\* (\*P < 0.001, \*\*P = 0.015, \*\*\*P = 0.002). LDL-C showed moderate and nonsignificant (P = 0.646) increase across tertiles.

**CONCLUSION:** In a sample of apparently healthy, young, and middle-aged Indian men abnormal TG/HDL-C ratio levels were observed among more than half the participants. The TG/HDL-C ratio was closely associated with other lipid parameters and measures of adiposity, such as BMI and body fat, apart from its previously documented unique association with sd-LDL particles. TG/HDL-C ratio should be evaluated in future for risk prediction of incident CVD among Indians.

DOI: 10.4103/2230-8210.196020

PMCID: PMC5240051

PMID: 28217509

Conflict of interest statement: There are no conflicts of interest.

109: Koli D, Nanda A, Kaur H, Verma M, Jain C. Cameo surface recording in complete denture fabrication using transcutaneous electrical nerve stimulation: A clinical report. *J Prosthet Dent.* 2017 Aug;118(2):127-130. doi: 10.1016/j.prosdent.2016.11.011. Epub 2017 Jan 31. PubMed PMID: 28159341.

Severe bone loss in patients with complete edentulism poses a treatment challenge. In fabricating a denture, the stability of the prosthesis must be enhanced by recording the cameo surface within the confines of the physiological position of the cheek and tongue muscles (the neutral zone) and by shaping it accordingly. The treatment of a patient with a completely edentulous maxillary arch and severe maxillary anterior bone loss is described. The cameo surface was recorded within the physiological limits during the fabrication of a complete denture by using transcutaneous electrical nerve stimulation (TENS).

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DOI: 10.1016/j.prosdent.2016.11.011

PMID: 28159341

110: Kriplani A, Bahadur A, Kulshrestha V, Agarwal N, Singh S, Singh UB. Role of anti-tubercular treatment for positive endometrial aspirate DNA-PCR reproductive outcome in infertile patients in Indian setting - A randomized trial. *Indian J Tuberc.* 2017 Jan;64(1):33-39. doi: 10.1016/j.ijtb.2016.11.005. Epub 2016 Dec 16. PubMed PMID: 28166914.

**AIMS:** The aim of the study was to determine the effect of anti-tubercular therapy (ATT) versus no ATT on reproductive outcome in patients with positive endometrial aspirate DNA-PCR for tuberculosis.

**SETTINGS AND DESIGN:** Department of Obstetrics and Gynecology in collaboration with the Department of Microbiology at the All India Institute of Medical Sciences, New Delhi, India.

**METHODS AND MATERIALS:** This prospective randomized study was conducted on 100

women in the reproductive age group with primary or secondary infertility, attending the Gynecology OPD at AIIMS. Women with positive endometrial DNA-PCR, patent tubes on laparoscopy, and all other tests being negative for genital TB were randomized into two groups. In Group 1, patients received ATT for 6 months while in Group 2, patients were not given ATT. In patients who did not conceive a repeat endometrial sampling for DNA-PCR was performed at 6 months and 12 months post-laparoscopy.

STATISTICAL ANALYSIS: It was carried out using Stata 11.0 (College Station, TX, USA).

RESULTS: In Group 1 (ATT), 25 women achieved pregnancy with a pregnancy rate of 50% while in Group 2 (no ATT), 21 women achieved pregnancy with a pregnancy rate of 42% and the difference (95% CI) was 8.0% (-11.5%, 27.5%) which was not statistically significant ( $p=0.422$ ). Difference (95% CI) in the rate of repeat EA DNA-PCR being positive between the two groups at 6 months was 3.1% (-2.9%, 9.1%),  $p=0.299$ , while at the end of 12 months, repeat DNA-PCR remained positive in 23 patients in Group 1 and in 26 patients in Group 2. Difference (95% CI) in the rate of repeat EA DNA-PCR being positive between the two groups at 12 months was 2.3% (-13.0%, 17.7%),  $p=0.767$ .

CONCLUSION: The present study does not validate ATT for positive DNA-PCR; however, it does provide an evidence to stop over-treating patients on the basis of positive EA DNA-PCR even after they have received a 6 months course of ATT. Repeating PCR at 6 months and at 12 months has no role and ATT should not be repeatedly given to the patient on the basis of repeat DNA-PCR alone.

CLINICAL TRIAL REGISTRATION NUMBER: CTRI/2015/10/006235, [www.ctri.nic.in](http://www.ctri.nic.in).

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DOI: 10.1016/j.ijtb.2016.11.005

PMID: 28166914

111: Kumar A, Jaryal A, Gulati S, Chakrabarty B, Singh A, Deepak KK, Pandey RM, Gupta N, Sapra S, Kabra M, Khajuria R. Cardiovascular Autonomic Dysfunction in Children and Adolescents With Rett Syndrome. *Pediatr Neurol*. 2017 May;70:61-66. doi: 10.1016/j.pediatrneurol.2017.01.010. Epub 2017 Jan 17. PubMed PMID: 28351539.

BACKGROUND: Autonomic dysfunction is common in children with Rett syndrome. They usually manifest with agitation, persistent screaming, constipation, gastroesophageal reflux, aerophagia, hyperventilation, and breath-holding episodes. Cardiovascular autonomic dysfunction may result in fatal arrhythmia. Many of these events are mistaken for seizures and treated with antiepileptics. METHODS: The present study was conducted in a tertiary care teaching hospital in north India for more than a six month period. MeCP2 mutation positive, 24 cases with Rett syndrome and 24 age-matched healthy girls were evaluated for cardiovascular autonomic dysfunction (heart rate variability, head-up tilt test, and cold pressor test).

RESULTS: The mean age was 9.06 years ( $\pm 3.4$ ) and 9.75 years ( $\pm 3.13$ ) for patients and control subjects, respectively. The heart rate variability contributed independently by parasympathetic and sympathetic nervous system was significantly reduced in cases compared with control subjects ( $P = 0.033$  and  $P = 0.001$ , respectively). There was significant sympathovagal imbalance with sympathetic overactivity in cases compared with control subjects ( $P = 0.001$ ). The mean longest QTc interval was significantly prolonged in cases compared with control subjects ( $P = 0.001$ ). Cold pressor test and head-up tilt test could be done in 16 Rett syndrome patients (because of poor cooperation) and in all 24 control subjects. The change in blood pressure during cold pressor test and head-up tilt test was not significantly different in cases and control subjects.

CONCLUSIONS: Children with Rett syndrome exhibited significant cardiovascular autonomic dysfunction in the form of sympathetic overactivity, parasympathetic underactivity, and sympathovagal imbalance. These findings have potentially important therapeutic- and outcome-related implications.



DOI: 10.1016/j.pediatrneurol.2017.01.010

PMID: 28351539

112: Kumar A, Kumar A, Singh PK, Mishra S, Garg K, Sharma BS. Letter to the Editor: Beta-blocker therapy. *J Neurosurg.* 2017 Mar;126(3):1026-1027. doi: 10.3171/2016.10.JNS162509. Epub 2017 Jan 20. PubMed PMID: 28106496.

113: Kumar A, Mondal S, Sethi P, Manchanda S, Biswas A, Wig N. Spontaneous iliopsoas haematoma in a patient with dengue haemorrhagic fever (DHF): A case report. *J Vector Borne Dis.* 2017 Jan-Mar;54(1):103-105. PubMed PMID: 28352053.

114: Kumar A, Misra S, Kumar P, Prasad K, Pandit AK, Chakravarty K, Kathuria P, Gulati A. Association between endothelial nitric oxide synthase gene polymorphisms and risk of ischemic stroke: A meta-analysis. *Neurol India.* 2017 Jan-Feb;65(1):22-34. doi: 10.4103/0028-3886.198170. Review. PubMed PMID: 28084234.

Previously published studies that have examined whether the three polymorphisms, G894T, T786C, and 4b/a in the endothelial nitric oxide synthase (eNOS) gene, are associated with ischemic stroke (IS) have reported conflicting results. Thus, we performed a meta-analysis to examine the potential association between these three single nucleotide polymorphisms (SNPs) of the eNOS gene and IS risk. A literature search was carried out for eligible candidate gene studies published before August 05, 2015 in the PubMed, Embase, and Google Scholar databases. The following combinations of main keywords were used in our study: ('endothelial nitric oxide synthase') or ('eNOS') and ('G894T, 4b/a, and T786C') and ('polymorphism') or ('polymorphisms') and ('Ischemic Stroke' or 'IS') and ('Cerebral Infarction' or 'CI') and ('genetic polymorphism' or 'single nucleotide polymorphisms' or 'SNP'). Pooled odds ratios (ORs) and 95% confidence intervals (CIs) were estimated by using fixed or random effects model. Meta-regression analysis was used to investigate the potential sources of heterogeneity. Begg's funnel plots were used to explore the publication bias, and heterogeneity was assessed by I<sup>2</sup> test. Twenty seven case-control studies involving 6733 cases and 7305 controls were analyzed in our meta-analysis. Significant association was observed for G894T (OR = 1.17; 95% CI: 1.08 to 1.28; P < 0.001) and 4b/a (OR = 1.25; 95% CI: 1.13 to 1.39; P < 0.001) whereas a non-significant association was observed for T786C (OR = 1.11; 95% CI: 0.98 to 1.26; P = 0.109) eNOS gene polymorphisms and IS. Our meta-analysis establishes that the G894T and 4b/a polymorphisms of eNOS gene are significantly associated with the risk of IS. However, a non-significant association was found between T786C polymorphism of the eNOS gene and IS risk. Further prospective large epidemiological studies need to be done to confirm these findings.

DOI: 10.4103/0028-3886.198170

PMID: 28084234

115: Kumar A, Lale SV, Aji Alex MR, Choudhary V, Koul V. Folic acid and trastuzumab conjugated redox responsive random multiblock copolymeric nanocarriers for breast cancer therapy: In-vitro and in-vivo studies. *Colloids Surf B Biointerfaces.* 2017 Jan 1;149:369-378. doi: 10.1016/j.colsurfb.2016.10.044. Epub 2016 Nov 6. PubMed PMID: 27846450.

The study represents synthesis, characterization and biological evaluation of redox responsive polymeric nanoparticles based on random multiblock copolymer for doxorubicin delivery in breast cancer. The random multiblock copolymer was synthesized via ring opening polymerization of lactide with polyethylene glycol to form triblock copolymer followed by isomerization polymerization of the triblock copolymer and 2-hydroxyethyl disulfide with the help of hexamethylene diisocyanate in presence of dibutyltin dilaurate as a catalyst. Folic acid was

conjugated to hydroxyl group from the multiblock polymer through DCC-NHS coupling. High drug loading content of ~22% was achieved in the polymeric nanoparticles with size range of ~110nm and polyethylene glycol fraction of ~18% in the multiblock copolymer. Drug release profile confirmed the redox responsive behavior of polymeric nanoparticles with ~72% drug release at pH 5.5 in presence of 10mM GSH as compared to ~18% drug release at pH 7.4. In vitro cellular uptake studies showed ~22% cellular uptake with dual (folic acid and trastuzumab) conjugated polymeric nanoparticles as compared to non-targeted polymeric nanoparticles. Fluorescence activated cell sorting (FACS) studies demonstrated higher apoptosis (~80%) as compared to non-conjugated polymeric nanoparticles (20%) in MCF-7 cell line. In vivo studies showed 91% tumor regression in Ehrlich ascites tumor (EAT) as compared to free doxorubicin treated mice without showing any significant toxicity. Thus, it is envisaged that these redox responsive polymeric nanocarriers act as Trojan horses in cancer therapeutics.

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DOI: 10.1016/j.colsurfb.2016.10.044

PMID: 27846450 [Indexed for MEDLINE]

116: Kumar A, Misra S, Kumar P, Sagar R, Prasad K. Association between Beta-Fibrinogen C148T Gene Polymorphism and Risk of Ischemic Stroke in a North Indian Population: A Case-Control Study. *Pulse (Basel)*. 2017 Jan;4(4):165-171. doi: 10.1159/000449361. Epub 2016 Oct 12. PubMed PMID: 28229050; PubMed Central PMCID: PMC5290428.

**BACKGROUND AND PURPOSE:** Stroke is a multifactorial disease influenced by both genetic and environmental factors. The aim of this case-control study was to determine the association between  $\beta$ -fibrinogen C148T (rs1800787) gene polymorphism and susceptibility to ischemic stroke (IS) in a North Indian population.

**METHODS:** In the present case-control study, genotyping was performed using the PCR-RFLP (polymerase chain reaction-restriction fragment length polymorphism) method on 250 IS patients and 250 age- and sex-matched controls. Frequency distributions of genotypes and alleles were compared between the cases and controls by conditional logistic regression.

**RESULTS:** Hypertension, diabetes, dyslipidemia, low socioeconomic status, and family history of stroke were found to be independent risk factors for IS. The mean age of the cases and controls was  $52.83 \pm 12.59$  and  $50.97 \pm 12.70$  years, respectively. Multivariate logistic regression analysis showed an independent association between  $\beta$ -fibrinogen C148T (rs1800787) polymorphism and risk of IS in dominant (OR = 2.19; 95% CI 1.23-3.90;  $p = 0.007$ ) and allelic (OR = 1.66; 95% CI 1.19-2.33;  $p = 0.002$ ) models. Based on the Trial of Org 10172 in Acute Stroke Treatment (TOAST) classification, an independent association of small vessel disease with risk of IS was observed in the dominant (OR = 2.09; 95% CI 1.10-3.96;  $p = 0.02$ ) and allelic (OR = 1.75; 95% CI 1.12-2.75;  $p = 0.01$ ) models, and a significant association of cardioembolic stroke with risk of IS was seen in the allelic model (OR = 2.11; 95% CI 1.07-4.17;  $p = 0.02$ ). All the genotype frequencies observed were in accordance with Hardy-Weinberg equilibrium in both cases and controls.

**CONCLUSION:** The findings of the present study suggest that polymorphism in the C148T position of the  $\beta$ -fibrinogen gene might be a risk factor for IS mainly for the small vessel disease stroke subtype in a North Indian population. Further, large prospective studies are required to confirm these findings.

DOI: 10.1159/000449361

PMCID: PMC5290428

PMID: 28229050

117: Kumar A, Mandal A, Sinha S, Singh A, Das RR. Prevalence, Response to Cysticidal Therapy, and Risk Factors for Persistent Seizure in Indian Children with Neurocysticercosis. *Int J Pediatr*. 2017;2017:8983958. doi: 10.1155/2017/8983958. Epub 2017 Jan 10. PubMed PMID: 28167968; PubMed Central

**Background.** Neurocysticercosis (NCC) is the commonest cause of childhood acquired epilepsy in developing countries. The use of cysticidal therapy in NCC, except "single lesion NCC," is still debated in view of its doubtful usefulness and potential adverse effects. **Methods.** Children presenting with first episode of seizure or acute focal neurological deficit without fever were screened for NCC and received appropriate therapy (followup done for 1 year to look for the response and side effects). **Results.** The prevalence of NCC was 4.5%. Most common presenting feature was generalized seizure and commonest imaging finding was single small enhancing lesion in the parietal lobe. Abnormal EEG and CSF abnormalities were found in almost half of the children. The response to therapy was very good with infrequent recurrence of seizure and adverse effects of therapy were encountered rarely. No risk factors for persistent seizure could be identified. **Conclusion.** Present study shows that the response to cysticidal therapy is very good in NCC as seizure recurrence was observed in only 5%, 4.2%, and 4.2% of cases at 3-month, 6-month, and 1-year followup. Adverse effects of therapy were observed in 20% of cases during therapy but they were mild and self-limiting.

DOI: 10.1155/2017/8983958

PMCID: PMC5259654

PMID: 28167968

**Conflict of interest statement:** The authors declare that they have no competing interests.

118: Kumar P, Misra S, Kumar A, Faruq M, Shakya S, Vardhan G, Vivekanandhan S, Srivastava AK, Prasad K. Transforming growth factor- $\beta$ 1 (C509T, G800A, and T869C) gene polymorphisms and risk of ischemic stroke in North Indian population: A hospital-based case-control study. *Ann Indian Acad Neurol.* 2017 Jan-Mar;20(1):5-12. doi: 10.4103/0972-2327.199910. PubMed PMID: 28298836; PubMed Central PMCID: PMC5341267.

**BACKGROUND:** Transforming growth factor-beta 1 (TGF- $\beta$ 1) is a multifunctional pleiotropic cytokine involved in inflammation and pathogenesis of cerebrovascular diseases. There is limited information on the association between variations within the TGF- $\beta$ 1 gene polymorphisms and risk of ischemic stroke (IS). The aim of this study was to investigate the association of the TGF- $\beta$ 1 gene (C509T, G800A, and T869C) polymorphisms, and their haplotypes with the risk of IS in North Indian population.

**METHODS:** A total of 250 IS patients and 250 age- and sex-matched controls were studied. IS was classified using the Trial of Org 10172 in Acute Stroke Treatment classification. Conditional logistic regression analysis was used to calculate the strength of association between TGF- $\beta$ 1 gene polymorphisms and risk of IS. Genotyping was performed using SNaPshot method.

**RESULTS:** Hypertension, diabetes, dyslipidemia, alcohol, smoking, family history of stroke, sedentary lifestyle, and low socioeconomic status were found to be associated with the risk of IS. The distribution of C509T, G800A and T869C genotypes was consistent with Hardy-Weinberg Equilibrium in the IS and control groups. Adjusted conditional logistic regression analysis showed a significant association of TGF- $\beta$ 1 C509T (odds ratio [OR], 2.1; 95% CI; 1.2-3.8; P = 0.006), G800A (OR, 4.4; 95% CI; 2.1-9.3; P < 0.001) and T869C (OR, 2.6; 95% CI; 1.5-4.5; P = 0.001) with the risk of IS under dominant model. Haplotype analysis showed that C509-A800-T869 and T509-G800-C869 haplotypes were significantly associated with the increased risk of IS. C509T and T869C were in strong linkage disequilibrium ( $D' = 0.51$ ,  $r(2) = 0.23$ ).

**CONCLUSION:** Our results suggest that TGF- $\beta$ 1 polymorphisms and their haplotypes are significantly associated with the risk of IS in North Indian population.

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PMCID: PMC5341267

PMID: 28298836

Conflict of interest statement: There are no conflicts of interest.

119: Kumar P, Vats O, Kumar D, Singh S. Coccidian intestinal parasites among immunocompetent children presenting with diarrhea: Are we missing them? *Trop Parasitol.* 2017 Jan-Jun;7(1):37-40. doi: 10.4103/2229-5070.202291. PubMed PMID: 28459013; PubMed Central PMCID: PMC5369272.

**BACKGROUND:** Diarrhoea is an important cause of both morbidity and mortality among children in India. Coccidian parasitic infections are an important cause of diarrhea in immunocompromised patients, but their investigations are rarely sought by the treating physicians in seemingly immunocompetent children. This study was aimed to find the incidence rate of coccidian parasites in all children presented with diarrhoea, irrespective of their immune status.

**MATERIALS AND METHODS:** Between December 2015 and May 2016, all fecal samples from children aged between 0 and 15 years presenting with diarrhoea, irrespective of their immune status, were examined using conventional wet mount and modified acid-fast staining. At the end of the study, records of their clinical history and immune status including HIV positivity were evaluated. Findings of wet-mount and modified acid-fast stained smear microscopy were analyzed in relation with clinical details.

**RESULTS:** During the study, samples from 200 children (single sample) with diarrhea were processed. Their mean age was  $5.7 \pm 3.3$  years (range 4-168 months). Seventeen out of 200 (8.5%) samples were positive for acid-fast coccidian parasites. Eight (4%) samples were found to be positive for *Cryptosporidium hominis*, while 5 (2.5%) were positive for *Cyclospora cayetonensis* and 4 (2%) samples for *Isospora belli* oocysts. Half (50%) of the children who were tested positive for *Cryptosporidium* and *Cyclospora* were found to be otherwise immunocompetent. However, all four cases of *Isosporiasis* were immunocompromised patients.

**CONCLUSION:** We highlight the high incidence of coccidian parasites among immunocompetent children with diarrhea. The clinicians need to be aware that coccidian parasites are a potential cause of childhood diarrhea even in immunocompetent children.

DOI: 10.4103/2229-5070.202291

PMCID: PMC5369272

PMID: 28459013

Conflict of interest statement: There are no conflicts of interest.

120: Kumar P, Medigeshi GR, Mishra VS, Islam M, Randev S, Mukherjee A, Chaudhry R, Kapil A, Ram Jat K, Lodha R, Kabra SK. Etiology of Acute Respiratory Infections in Infants: A Prospective Birth Cohort Study. *Pediatr Infect Dis J.* 2017 Jan;36(1):25-30. PubMed PMID: 27753796.

**BACKGROUND:** There is paucity of studies on etiology of acute respiratory infections (ARI) in infants. The objective of this study is to document incidence and etiology of ARI in infants, their seasonal variability and association of clinical profile with etiology.

**METHODS:** A birth cohort was followed for the first year of life; for each episode of ARI, nasopharyngeal aspirates were collected to identify the causative respiratory virus(es) using multiplex real-time polymerase chain reaction assay. For lower respiratory tract infections blood culture, serum procalcitonin, serum antibodies to *Mycoplasma* and *Chlamydia* and urinary *Streptococcus pneumoniae* antigen were also assayed.

**RESULTS:** A total of 503 ARI episodes were documented in 310 infants for an incidence rate of 1.8 episodes per infant per year. Of these, samples were processed in 395 episodes (upper respiratory tract infection: 377; lower respiratory tract infection: 18). One or more viruses were detected in 250 (63.3%) episodes and viral coinfections in 72 (18.2%) episodes. Rhinovirus was the most common virus [105 (42%)] followed by respiratory syncytial virus [50 (20%)], parainfluenza virus [42 (16.8%)] and coronavirus [44 (17.6%)]. In lower

respiratory tract infections, viral infections were detected in 12 (66.7%) episodes, bacterial infections in 17 (94.4%) episodes and mixed bacterial-viral infections in 8 (44.4%) episodes. Peak incidence of viruses was observed during February-March and September-November. There was no significant difference in symptom duration with virus types.

CONCLUSION: In this cohort of infants, ARI incidence was 1.8 episodes per year per infant; 95% were upper respiratory tract infections. Viruses were identified in 63.3% episodes, and the most common viruses detected were rhinovirus, respiratory syncytial virus and parainfluenza virus.

DOI: 10.1097/INF.0000000000001359

PMID: 27753796 [Indexed for MEDLINE]

121: Kumar R. What's inside. *Indian J Urol.* 2017 Jan-Mar;33(1):4-5. doi: 10.4103/0970-1591.197327. PubMed PMID: 28197022; PubMed Central PMCID: PMC5264191.

122: Kumar R. A time to change. *Indian J Urol.* 2017 Jan-Mar;33(1):1. doi: 10.4103/0970-1591.197328. PubMed PMID: 28197020; PubMed Central PMCID: PMC5264184.

123: Kumar R, Sonkawade RG, Pandey AK, Tripathi M, Damle NA, Kumar P, Bal CS. Practical experience and challenges in the operation of medical cyclotron. *Nucl Med Commun.* 2017 Jan;38(1):10-14. PubMed PMID: 27755293.

OBJECTIVE: The aim of this article was to share 10 years of operational experience of medical cyclotron and to provide working knowledge on the same. This experience has helped us gain working knowledge on cyclotron operation with practical points, which may help in improving F yield, minimizing the breakdown time, and help in the prevention of the occurrence of unusual events.

MATERIALS AND METHODS: Our facility has a self-shielded radioisotope delivery system eclipse 111 medical cyclotron with an 11MeV proton beam in use for the past 10 years to produce positron emitters - namely, F, N, and F-2 gas - for PET imaging. During F production, we have followed a set protocol comprising the following: monitoring target pressure, rinsing the target with O water just immediately after bombardment, ion source feedback, radiofrequency (RF) feedback, and recording any unusual events that occurred during the operation. Besides this, enrichment of O water, target volume, target current, energy of the beam, variation in argon pressure on the target, bombardment duration, target status (new or old target or total number of previous bombardments on the same target), status of the delivery lines from target to the radiochemistry module (old or new) were also recorded.

RESULTS: Rinsing with O water immediately after bombardment increases the life of the target and delivery line. The frequent problems encountered were with the ion source, RF, and target foil rupture. These problems were solved by rebuilding the ion source, changing the fuse of RF, and rebuilding the target.

CONCLUSION: F yield can be increased by rinsing with O water immediately after bombardment. The effect of target leak - that is, rupture of vacuum window - can be avoided by immediate stoppage of bombardment.

DOI: 10.1097/MNM.0000000000000598

PMID: 27755293 [Indexed for MEDLINE]

124: Kumar S, Malik MA, K S, Sihota R, Kaur J. Genetic variants associated with primary open angle glaucoma in Indian population. *Genomics.* 2017 Jan;109(1):27-35. doi: 10.1016/j.ygeno.2016.11.003. Epub 2016 Nov 13. Review. PubMed PMID: 27851990.

Glaucoma is a very common disorder of the eye wherein the disturbance of the structural or functional integrity of the optic nerve causes characteristic atrophic changes in the optic nerve, which may lead to specific visual field

defects over time. Primary open angle glaucoma (POAG) is most frequent among the three principle glaucoma subtypes. With well-established role of genes like Myocilin (MYOC), Optineurin (OPTN) and WD repeat Domain 36, (WDR36), at least 29 genetic loci have been found till date to be linked to POAG. Moreover, association studies have found 66 loci with 76 genes associated to POAG till date with conflicting results. This particular study is to summarize the current knowledge regarding the change in glaucoma prevalence worldwide and in India from 1993 onwards and compiles all the studied genes that are involved in POAG pathogenesis in Indian population.

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DOI: 10.1016/j.ygeno.2016.11.003

PMID: 27851990

125: Kumar S, Jahangir Alam M, Prabhakar P, Ahmad S, Maulik SK, Sharma M, Goswami SK. Proteomic analysis of the protective effects of aqueous bark extract of Terminalia arjuna (Roxb.) on isoproterenol-induced cardiac hypertrophy in rats. J Ethnopharmacol. 2017 Feb 23;198:98-108. doi: 10.1016/j.jep.2016.12.050. Epub 2017 Jan 4. PubMed PMID: 28063919.

**ETHNOPHARMACOLOGICAL RELEVANCE:** Aqueous bark extract of Terminalia arjuna (TA) has been in use as an ethnomedicine for cardiovascular ailments in the Indian subcontinent for centuries. Studies using hemodynamic, ROS scavenging and anti-inflammatory parameters in animal models have shown its anti-atherogenic, hypotensive, inotropic, anti-inflammatory effects. However, details analysis on its effects on established molecular and cell biological markers are a prerequisite for its wider acceptance to the medical community.

**AIMS OF THE STUDY:** To test the efficacy of TA extract in ameliorating cardiac hypertrophy induced by ISO in rats.

**METHODS:** Cardiac hypertrophy was induced by ISO (5mg/kg/day s.c. for 14 days) in rats and a standardized aqueous extract of TA stem bark was orally administered by gavage. Total RNA and protein were isolated from control, ISO, ISO plus TA and TA treated rat hearts and analyzed for the transcripts for the markers of hypertrophy, signaling kinases, transcription factors and total protein profile.

**RESULTS:** TA extract reversed the induction of fetal genes like  $\beta$ -myosin heavy chain, skeletal  $\alpha$ -actin and brain natriuretic peptide in hypertrophic rat hearts. While ISO slightly increased the level of phospho-ERK, TA repressed it to about one third of the base line level. Survival kinase Akt, ER stress marker Grp78 and epigenetic regulator HDAC5 were augmented by ISO and TA restored them by various extents. ISO administration moderately increased the transcription factor NF $\kappa$ B binding activity, while coadministration of TA further increased it. AP-1 binding activity was largely unchanged by ISO treatment but it was upregulated when administered along with TA. MEF2D binding activity was increased by ISO and TA restored it to the baseline level. Global proteomic analysis revealed that TA treatment restored a subset of proteins up- and down-regulated in the hypertrophied hearts. Amongst those restored by TA were purinergic receptor X, myosin light chain 3, tropomyosin, and kininogen; suggesting a nodal role of TA in modulating cardiac function.

**CONCLUSIONS:** This study for the first time reveals that TA partially or completely restores the marker mRNAs, signaling kinases, transcription factors and total protein profile in rat heart, thereby demonstrating its efficacy in preventing ISO-induced cardiac hypertrophy.

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DOI: 10.1016/j.jep.2016.12.050

PMID: 28063919 [Indexed for MEDLINE]

126: Kumar S, Dey S, Jain S. Extremely low-frequency electromagnetic fields: A possible non-invasive therapeutic tool for spinal cord injury rehabilitation. Electromagn Biol Med. 2017;36(1):88-101. Epub 2016 Jul 11. Review. PubMed PMID: 27399648.

Traumatic insults to the spinal cord induce both immediate mechanical damage and subsequent tissue degeneration. The latter involves a range of events namely cellular disturbance, homeostatic imbalance, ionic and neurotransmitters derangement that ultimately result in loss of sensorimotor functions. The targets for improving function after spinal cord injury (SCI) are mainly directed toward limiting these secondary injury events. Extremely low-frequency electromagnetic field (ELF-EMF) is a possible non-invasive therapeutic intervention for SCI rehabilitation which has the potential to constrain the secondary injury-induced events. In the present review, we discuss the effects of ELF-EMF on experimental and clinical SCI as well as on biological system.

DOI: 10.1080/15368378.2016.1194290

PMID: 27399648 [Indexed for MEDLINE]

127: Kumar U, Ramteke P, Das P, Gogia A, Tanwar P. Isolated bone marrow metastasis of testicular tumor: A rare cause of thrombocytopenia. *Urol Ann.* 2017 Jan-Mar;9(1):96-98. doi: 10.4103/0974-7796.198833. PubMed PMID: 28216942; PubMed Central PMCID: PMC5308052.

Isolated bone marrow metastasis of testicular tumor is very rare. Here, we report this case of a 21-year-old male who was admitted to our hospital with generalized body pain, which was severe and weakness for one month. He had a history of an operative intervention for the left testicular mass about 6 months ago which was diagnosed as mixed germ cell tumor on histopathological examination. The blood investigations showed anemia, low platelets, and elevated tumor markers. Bone marrow aspiration and biopsy examination showed metastatic deposits of mixed germ cell tumor. There were no foci of disease in any other part of the body. The patient was given chemotherapy, i.e. cisplatin, etoposide, and bleomycin. After completion of chemotherapy, there was drastic improvement in pain and weakness. A repeat examination of bone marrow done after 3 month was free of tumor.

DOI: 10.4103/0974-7796.198833

PMCID: PMC5308052

PMID: 28216942

Conflict of interest statement: There are no conflicts of interest.

128: Kumar V, Damodaran S, Sharma A. Vitreous base avulsion. *BMJ Case Rep.* 2017 Jan 4;2017. pii: bcr2016218303. doi: 10.1136/bcr-2016-218303. PubMed PMID: 28052952.

129: Kumar V, Samdani A, Chandra P, Kumar A. Ultra-wide field imaging of retinal haemangioma in retinitis pigmentosa. *Clin Exp Optom.* 2017 Jan;100(1):96-97. doi: 10.1111/cxo.12437. Epub 2016 Aug 23. PubMed PMID: 27553894.

130: Kumar V, Chandra P, Kumar A. Ultra-wide field imaging in the diagnosis and management of adult-onset Coats' disease. *Clin Exp Optom.* 2017 Jan;100(1):79-82. doi: 10.1111/cxo.12418. Epub 2016 Jul 31. PubMed PMID: 27476647.

**BACKGROUND:** The conventional fundus imaging covers up to 60 degrees of retina only. Although various montaging techniques can significantly increase the area that can be imaged, it is still difficult to image and document the peripheral retina. The purpose of this study is to describe the use of ultra-wide field imaging in the diagnosis and management of adult-onset Coats' disease.

**METHODS:** This is a retrospective case series of three patients diagnosed with adult-onset Coats' disease that were treated at the retina clinic of our institute. The case records, conventional and ultra-wide field fluorescein angiograms and optical coherence tomography scans were reviewed.

**RESULTS:** The ultra-wide field pseudo-colour photographs and fluorescein

angiograms were able to provide clinically useful information over and above that provided by conventional imaging. In all three patients, ultra-wide field angiography showed the temporal avascular periphery. In addition, it revealed retinal neovascularisation, peripheral vascular leakage and documented peripheral telangiectasia in selected patients.

CONCLUSION: Ultra-wide field imaging provides information that can help in the diagnosis and management of adult-onset Coat's disease. This may lead to better visual outcomes in Coats' disease.

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DOI: 10.1111/cxo.12418

PMID: 27476647

131: Kumar V, Nayak M, Ansari T, Malhotra R. Sudden peroneal nerve palsy in an osteoarthritic knee: a case report. SICOT J. 2017;3:22. doi: 10.1051/sicotj/2017005. Epub 2017 Mar 10. PubMed PMID: 28287389; PubMed Central PMCID: PMC5347368.

Peroneal nerve injuries have been reported in association with various causes around the knee such as traumatic varus injury, traumatic dislocation, upper tibial osteotomy, knee arthroscopy and total knee arthroplasty. Two instances of varus arthritic knee associated with a peroneal nerve palsy have been reported so far. One presented with gradual onset peroneal nerve palsy that recovered with time and the other with sudden onset peroneal nerve palsy that did not recover. We describe the case of a 63-year-old man who presented with a symptomatic varus arthritic knee and sudden onset peroneal nerve palsy with synovial cysts over the lateral aspect of the knee. We performed a total knee arthroplasty with decompression of the synovial cyst in the same patient. Three months following the surgery the patient was walking pain free with a completely recovered nerve palsy.

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DOI: 10.1051/sicotj/2017005

PMCID: PMC5347368

PMID: 28287389

132: Kumar VL, Guruprasad B, Fatmi SMA, Chaudhary P, Alencar NMN, Lima-Filho JVM, Ramos MV. In Vivo Efficacy of Latex from *Calotropis procera* in Ameliorating Fever-Biochemical Characteristics and Plausible Mechanism. Appl Biochem Biotechnol. 2017 Jul;182(3):1229-1239. doi: 10.1007/s12010-016-2395-y. Epub 2017 Jan 11. PubMed PMID: 28078650.

*Calotropis procera* latex fractions possessing anti-inflammatory property were characterized for their biochemical properties, compared for their efficacy in ameliorating fever in rats and their mechanism of action was elucidated. Aqueous fraction and methanol extract (AqDL and MeDL) were derived from the dried latex (DL) and proteins were separated from the fresh latex (LP). Polyacrylamide gel electrophoresis carried out under denaturing conditions showed the presence of proteins with some similarity in LP and AqDL and both of these fractions exhibited proteinase activity by gelatin zymography. A further analysis revealed that only the LP fraction possesses cysteine proteinase activity. Oral administration of both AqDL and MeDL produced a dose-dependent reduction in body temperature in rats where fever was induced by yeast and their effect was comparable to that of standard drug paracetamol while intravenous administration of LP was not so effective. Both AqDL and MeDL produced a significant reduction in the levels of TNF- $\alpha$ , PGE<sub>2</sub>, and immunoreactivity of COX-2 in the hypothalamus as compared to yeast control group. This study shows that both AqDL and MeDL, the orally effective anti-inflammatory fractions of latex, have therapeutic potential in treating various febrile conditions.

DOI: 10.1007/s12010-016-2395-y



PMID: 28078650 [Indexed for MEDLINE]

133: Madan K, Dhungana A, Hadda V, Mohan A, Guleria R. Flexible bronchoscopic argon plasma coagulation for management of massive hemoptysis in bronchial Dieulafoy's disease. *Lung India*. 2017 Jan-Feb;34(1):99-101. doi: 10.4103/0970-2113.197096. PubMed PMID: 28144074; PubMed Central PMCID: PMC5234213.

Dieulafoy's disease is an uncommon condition, the usual site of occurrence being the gastrointestinal tract. The condition refers to the presence of a dysplastic submucosal artery with mucosal vascular branches that has propensity to cause recurrent bleeding. Dieulafoy's disease of the bronchus is rare. Herein, we describe the case of a 26-year-old male who presented with recurrent bouts of hemoptysis and bronchial Dieulafoy's disease was diagnosed. Flexible bronchoscopy was performed, and argon plasma coagulation (APC) of the bleeding lesion was done. The procedure was successful and was followed by complete eradication of the vascular malformation and cessation of hemoptysis. APC is a useful tool in the armamentarium of an interventional pulmonologist that can allow rapid and safe control of bleeding from superficially located and bleeding endobronchial lesions, and can be easily and effectively applied using a flexible bronchoscope.

DOI: 10.4103/0970-2113.197096  
PMCID: PMC5234213  
PMID: 28144074

Conflict of interest statement: There are no conflicts of interest.

134: Madan K, Dhungana A, Mohan A, Hadda V, Jain D, Arava S, Pandey RM, Khilnani GC, Guleria R. Conventional Transbronchial Needle Aspiration Versus Endobronchial Ultrasound-guided Transbronchial Needle Aspiration, With or Without Rapid On-Site Evaluation, for the Diagnosis of Sarcoidosis: A Randomized Controlled Trial. *J Bronchology Interv Pulmonol*. 2017 Jan;24(1):48-58. PubMed PMID: 27984385.

**BACKGROUND:** Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) as a standalone modality is superior to conventional TBNA (c-TBNA) for the diagnosis of sarcoidosis. However, the overall yield is not different if combined with endobronchial biopsy (EBB) and transbronchial lung biopsy (TBLB). The utility of rapid on-site evaluation (ROSE) in a comparative evaluation of EBUS-TBNA versus c-TBNA for the diagnosis of sarcoidosis has not been previously evaluated.

**METHODS:** Eighty patients with suspected sarcoidosis were randomized 1:1:1:1 into 4 groups: c-TBNA without ROSE (TBNA-NR), c-TBNA with ROSE (TBNA-R), EBUS-TBNA without ROSE (EBUS-NR), and EBUS-TBNA with ROSE (EBUS-R). EBB and TBLB were performed in all patients. Primary objective was detection of granulomas for combined procedure. Secondary objectives were individual procedure yields, sedation dose, and procedure duration. Patients without a diagnosis following c-TBNA subsequently underwent EBUS-TBNA.

**RESULTS:** A total of 74 patients were finally diagnosed with sarcoidosis. Overall, granuloma detection was not significantly different between the 4 groups (68% in TBNA-NR, 89% in TBNA-R, 84% in EBUS-NR, and 83% in EBUS-R groups,  $P=0.49$ ). The yield of c-TBNA in the TBNA-NR group was lower compared with that in TBNA-R group and EBUS-TBNA in EBUS groups (32%, 72%, 68%, and 67% for TBNA-NR, TBNA-R, EBUS-NR, and EBUS-R groups, respectively,  $P=0.04$ ). Additional 20% patients were diagnosed when EBUS-TBNA was performed following a nondiagnostic bronchoscopy procedure in the TBNA-NR group. Sedation requirement and procedure duration were significantly lower with c-TBNA as compared with EBUS-TBNA ( $P<0.001$ ).

**CONCLUSION:** When performing TBNA in the setting of suspected sarcoidosis, we found c-TBNA with ROSE and EBUS-TBNA (with or without ROSE) to be superior to c-TBNA alone. Whether c-TBNA with ROSE is equivalent to EBUS-TBNA cannot be determined from our study due to small sample size/low power.

DOI: 10.1097/LBR.0000000000000339  
PMID: 27984385 [Indexed for MEDLINE]

135: Mahalangikar R, Sinha S, Sharma R. Comment on "Intraoperative Contrast Enhanced Ultrasound Evaluates the Grade of Glioma". *Biomed Res Int*. 2017;2017:3570895. doi: 10.1155/2017/3570895. Epub 2017 Jun 4. PubMed PMID: 28660208; PubMed Central PMCID: PMC5474277.

136: Mahalangikar RA, Singh PK, Mishra S, Sharma BS. Letter to the Editor. Mannitol for intraoperative brain relaxation. *J Neurosurg*. 2017 Jun;126(6):2054-2056. doi: 10.3171/2016.9.JNS162399. Epub 2017 Jan 13. PubMed PMID: 28084917.

137: Mahapatra A, Gupta R. Role of psilocybin in the treatment of depression. *Ther Adv Psychopharmacol*. 2017 Jan;7(1):54-56. doi: 10.1177/2045125316676092. Epub 2016 Oct 27. PubMed PMID: 28101325; PubMed Central PMCID: PMC5228719.

Psilocybin is a naturally occurring alkaloid, pharmacologically similar to the classic hallucinogen lysergic acid diethylamide (LSD). Although primarily used as a recreational drug or an entheogen in particular cultural settings, recent population based studies have shown that it does not lead to serious physical or mental health problems or dependent use. In view of recent work demonstrating psilocybin's potential to increase subjective sense of wellbeing and because of its novel mechanism of 5-HT<sub>2A</sub> serotonin receptor agonism, it is being explored for possible therapeutic utility in mood and anxiety disorders.

DOI: 10.1177/2045125316676092

PMCID: PMC5228719

PMID: 28101325

Conflict of interest statement: The authors declare that there is no conflict of interest.

138: Maharshi V, Nagar P. Chronic administration of phenytoin and pleomorphic adenoma: A case report and review of literature. *Indian J Pharmacol*. 2017 Jan-Feb;49(1):130-131. doi: 10.4103/0253-7613.201018. PubMed PMID: 28458439; PubMed Central PMCID: PMC5351228.

Adverse drug effects that are uncommon or appear only on chronic administration of a drug may not be detected in clinical trials. This explains the need of strict post-marketing vigilance on drug use. Phenytoin administration has been shown in the literature to be associated with development of neoplasia (benign/malignant). In our knowledge current work represents the first case of pleomorphic-adenoma of sub-mandibular salivary gland developed following chronic phenytoin use. A 40 year old male having a history of head trauma twenty years back, had been on tablet phenytoin 100 mg thrice daily since then. One year back he noticed a small swelling in left sub-mandibular region and gradually increasing in size. FNAC and CECT revealed the diagnosis of pleomorphic-adenoma of sub-mandibular salivary gland. Other causes were ruled out. Surgical excision was performed successfully and continuing follow-up with no recurrence at the end of 6 months. Histo-pathological examination of the tissue did not show any malignant changes.

DOI: 10.4103/0253-7613.201018

PMCID: PMC5351228

PMID: 28458439

Conflict of interest statement: There are no conflicts of interest.

139: Mahtab S, Vaish U, Saha S, Singh A, Goswami R, Rani R. Presence of Autoreactive, MHC Class I-Restricted, Calcium-Sensing Receptor (CaSR)-Specific CD8<sup>+</sup> T Cells in Idiopathic Hypoparathyroidism. *J Clin Endocrinol Metab*. 2017 Jan 1;102(1):167-175. doi: 10.1210/jc.2016-3131. PubMed PMID: 27805845.

Context: Major histocompatibility complex class I allele HLA-A\*26:01 and human leukocyte antigen (HLA) supertype A01 (STA01) are increased in idiopathic hypoparathyroidism (IH). However, cell-mediated autoimmune responses directed against the calcium-sensing receptor (CaSR) have not been demonstrated. Objective: To study CaSR-specific cytotoxic T-cell responses in peripheral blood mononuclear cells of IH patients. Design: Twenty-four peptides of CaSR (RH1 to RH24) were evaluated for their ex vivo potential to stimulate PBMCs from IH patients and controls in interferon (IFN)- $\gamma$  enzyme-linked immunospot (ELISPOT) assays. Setting: Tertiary patient care center and National Institute of Immunology, New Delhi, India. Patients and Other Participants: Forty-five patients with IH attending the endocrine clinic of the All India Institute of Medical Sciences and 22 healthy controls. Main Outcome Measures: Major histocompatibility complex class-I restricted, CaSR-specific cytotoxic CD8+ T-cell responses evaluated by IFN- $\gamma$  ELISPOT assay. Results: Of IH patients, 82.2% showed IFN- $\gamma$ -secreting cells when stimulated ex-vivo with CaSR peptides. Peptides RH7, RH9, and RH16 elicited HLA supertype A01-restricted responses in IH. RH8, RH14, RH15, RH20, and RH21 peptides induced significantly higher responses in STA01+ IH patients compared with healthy controls irrespective of their supertype A01 status. Conclusions: Our ex vivo IFN- $\gamma$  ELISPOT assays demonstrate the presence of CaSR-specific memory CD8+ T cells in the peripheral circulation of patients with IH, suggesting the role of cell-mediated autoimmune responses in the etiopathogenesis of IH.

DOI: 10.1210/jc.2016-3131

PMID: 27805845 [Indexed for MEDLINE]

140: Maitra S, Baidya DK, Bhattacharjee S. In response to: Comparison of paravertebral and interpleural block in patients undergoing modified radical mastectomy. *J Anaesthesiol Clin Pharmacol*. 2017 Jan-Mar;33(1):131-132. doi: 10.4103/0970-9185.168161. PubMed PMID: 28413293; PubMed Central PMCID: PMC5374820.

141: Meel R, Dhiman R, Wadhvani M, Kashyap S, Sharma S, Gogia A. Isolated Extranodal Natural Killer T-Cell Lymphoma of the Orbit in a Young Patient: Complete Regression with the SMILE Regimen. *Ocul Oncol Pathol*. 2017 Jan;3(1):45-48. doi: 10.1159/000449227. Epub 2016 Sep 30. PubMed PMID: 28275603; PubMed Central PMCID: PMC5318847.

PURPOSE: Natural killer T-cell lymphoma (NKTL) is a highly malignant tumor that typically arises in the nose and/or paranasal sinuses. Isolated orbital involvement by NKTL is extremely rare, and only few case reports exist in the literature. Herein, we report a case of primary orbital NKTL in a young patient who showed very good response to chemotherapy with the SMILE regimen. METHODS: A 28-year-old healthy female presented to us with epiphora and fullness of the lower eyelid. She had previously been diagnosed as orbital pseudotumor and was prescribed oral steroids. However, there was no response to the treatment. She also had a history of recurrent sinusitis. An incision biopsy revealed NKTL. A systemic workup did not reveal any other site of involvement. The patient received 6 cycles of chemotherapy (SMILE) and external beam radiotherapy. RESULTS: The tumor showed complete regression after 2 cycles of chemotherapy. The patient is disease free at 24 months of follow-up. CONCLUSION: Reported median survival for primary orbital NKTL is extremely poor. This is perhaps the first report of a primary orbital NKTL demonstrating a remarkable treatment response to a newer chemotherapy regimen (SMILE) in combination with radiotherapy.

DOI: 10.1159/000449227

PMCID: PMC5318847

PMID: 28275603

142: Meena S, Sharma PK, Mittal S, Sharma J, Chowdhury B. Modified Stoppa Approach versus Ilioinguinal Approach for Anterior Acetabular Fractures; A Systematic Review and Meta-Analysis. *Bull Emerg Trauma*. 2017 Jan;5(1):6-12. Review. PubMed PMID: 28246617; PubMed Central PMCID: PMC5316130.

**INTRODUCTION:** Modified Stoppa approach was introduced as an alternative to ilioinguinal approach for management of anterior fractures of acetabulum in order to reduce complications of the latter. However, the efficacy of either approach over other is not well established. The aim of this meta-analysis is to compare the efficacy of modified stoppa and ilioinguinal approach in the management of acetabular fractures in terms of a) quality of reduction achieved b) complication rates c) functional outcomes d) operative time e) intra-operative blood loss.

**METHODS:** Databases of PubMed, EMBASE and Cochrane registry of controlled trials were taken into consideration for studies on modified Stoppa approach versus Ilioinguinal approach group for the treatment of anterior acetabular fractures. Dichotomous variables were presented as risk ratios (RRs) /Odds Ratio (OR) with 95% confidence intervals (CIs), and continuous data was measured as mean differences, with 95% CIs.

**RESULT:** Four studies involving 375 patients were included in this meta-analysis. Out of those 375 patients, 192 were managed with ilioinguinal approach and 183 were managed with modified Stoppa approach. Anatomical reduction was significantly higher in Stoppa group ( $p=0.052$ , RR=1.19 (1.02, 1.37),  $p=0.90$ ,  $I^2=0\%$ ). The complication rate was significantly higher in the Ilioinguinal approach as compared with the Stoppa approach ( $p=0.01$ , RR 0.63 (0.44 to 0.91),  $p=0.73$  ( $I^2=0\%$ ). The operative time was significantly shorter with modified Stoppa approach (MD = -48.79 (-80.29 to -17.30),  $p=0.002$ ). No significant differences were found between the two groups in terms of their functional outcomes ( $p=0.63$ , RR 0.96 (-0.80 to 1.15),  $p=0.56$ ,  $I^2=0\%$ ) and blood loss (MD= -212.89 (-476.27 to 50.49)  $p=0.06$ ,  $I^2=71\%$ ).

**CONCLUSION:** Anterior acetabular fractures, if operated with the modified Stoppa approach were found to have better reduction and lower complication rates with less operative time, when compared to ilioinguinal approach. No significant difference in terms of blood loss was found in both the groups. Further higher quality randomized controlled trials are needed to verify our results.

PMCID: PMC5316130

PMID: 28246617

143: Mehra NK, Baranwal AK, Tait BD. Editorial: Antibody Repertoire and Graft Outcome following Solid Organ Transplantation. *Front Immunol*. 2017 Jun 9;8:648. doi: 10.3389/fimmu.2017.00648. eCollection 2017. PubMed PMID: 28649244; PubMed Central PMCID: PMC5465236.

144: Mehra S, Kumar M, Manchanda M, Singh R, Thakur B, Rani N, Arava S, Narang R, Arya DS, Chauhan SS. Clinical significance of cathepsin L and cathepsin B in dilated cardiomyopathy. *Mol Cell Biochem*. 2017 Apr;428(1-2):139-147. doi: 10.1007/s11010-016-2924-6. Epub 2017 Jan 10. PubMed PMID: 28074340.

Dysregulated expression of lysosomal cysteine cathepsins is associated with adverse cardiac remodeling, a characteristic of several cardiovascular diseases. However, the information regarding the role of cysteine cathepsin L (CTSL) and cathepsin B (CTSB) in dilated cardiomyopathy (DCM) is limited. The present study was aimed to investigate the expression of CTSL and CTSB in animal model of doxorubicin (doxo)-induced cardiomyopathy as well as in peripheral blood samples of DCM patients. Cardiac tissue sections from doxo-treated and control rats were used to study the expression of CTSL and CTSB by enzyme assay and immunohistochemistry (IHC). Peripheral blood mononuclear cells (PBMCs) isolated from DCM patients ( $n=29$ ) along with age-matched healthy controls ( $n=28$ ) were used to assay enzymatic activity of these cathepsins. Activities of these

proteases were further correlated with echocardiographic parameters of DCM patients. A significant increase in CTSL activity and protein expression was observed with no changes in CTSB levels in doxo-treated rats as compared to controls. We also observed a drastic increase in the functional activity of cathepsin L+cathepsin B (CTSL+B), CTSL, and CTSB in DCM patients compared to controls ( $p \leq 0.001$ ). Increased levels of these proteases exhibited a statistically significant correlation with reduced left ventricular ejection fraction (LVEF) in DCM patients ( $\rho = -0.58$ ,  $p = 0.01$ ). For the first time, this study demonstrates a correlation between increased expression of CTSL and CTSB in PBMCs with severity of left ventricular dysfunction in DCM patients. Thus, these proteases may serve as blood-based biomarker of DCM and prove useful in its management.

DOI: 10.1007/s11010-016-2924-6  
PMID: 28074340 [Indexed for MEDLINE]

145: Mehrotra D, Kumar S, Mishra S, Kumar S, Mathur P, Pandey CM, Pandey A, Chaudhry K. Pan masala habits and risk of oral precancer: A cross-sectional survey in 0.45 million people of North India. *J Oral Biol Craniofac Res.* 2017 Jan-Apr;7(1):13-18. doi: 10.1016/j.jobcr.2016.12.003. Epub 2016 Dec 29. PubMed PMID: 28316915; PubMed Central PMCID: PMC5343152.

**OBJECTIVES:** This cross-sectional community based study was conducted to estimate the prevalence of consumption habits for non tobacco pan masala (ASU) and the risk of developing oral precancer in North India.

**METHODS:** This study was conducted in the old town of Lucknow city in the state of Uttar Pradesh in India. Subjects residing for more than 6 months and aged 15 years or above, were enrolled in the study after their informed consent. A two page survey tool was used to collect the data. A three times more matched sample of non users was randomly obtained from this data to analyze and compare the final results.

**RESULTS:** 0.45 million subjects were surveyed. Majority of tobacco users were in the age group of 20-35 years among males and 35-39 years among females. Consumption of non tobacco pan masala among males as well as females was most common in 15-19 years of age group. Prevalence of oral precancer (leukoplakia, submucous fibrosis, erythroplakia, lichen planus, smokers palate and verrucous hyperplasia) was 3.17% in non tobacco pan masala users and 12.22% in tobacco users. The odds of developing oral precancer in non tobacco pan masala users was 20.71 (18.79-22.82) and in tobacco users was 88.07 (84.02-92.31) at 95% confidence interval against non users of both.

**CONCLUSION:** The odds of developing oral precancer even with consumption of pan masala is high, even when it is consumed without tobacco. It is hence recommended to discourage this habit.

DOI: 10.1016/j.jobcr.2016.12.003  
PMCID: PMC5343152  
PMID: 28316915

146: Menon V, Rajan TM, Sarkar S. Psychotherapeutic Applications of Mobile Phone-based Technologies: A Systematic Review of Current Research and Trends. *Indian J Psychol Med.* 2017 Jan-Feb;39(1):4-11. doi: 10.4103/0253-7176.198956. Review. PubMed PMID: 28250552; PubMed Central PMCID: PMC5329989.

There is a growing interest in using mobile phone technology to offer real-time psychological interventions and support. However, questions remain on the clinical effectiveness and feasibility of such approaches in psychiatric populations. Our aim was to systematically review the published literature on mobile phone apps and other mobile phone-based technology for psychotherapy in mental health disorders. To achieve this, electronic searches of PubMed, ScienceDirect, and Google Scholar were carried out in January 2016. Generated abstracts were systematically screened for eligibility to be included in the review. Studies employing psychotherapy in any form, being delivered through mobile-based technology and reporting core mental health outcomes in mental

illness were included in the study. We also included trials in progress with published protocols reporting at least some outcome measures of such interventions. From a total of 1563 search results, 24 eligible articles were identified and reviewed. These included trials in anxiety disorders (8), substance use disorders (5), depression (4), bipolar disorders (3), schizophrenia and psychotic disorders (3), and attempted suicide (1). Of these, eight studies involved the use of smartphone apps and others involved personalized text messages, automated programs, or delivered empirically supported treatments. Trial lengths varied from 6 weeks to 1 year. Good overall retention rates indicated that the treatments were feasible and largely acceptable. Benefits were reported on core outcomes in mental health illness indicating efficacy of such approaches though sample sizes were small. To conclude, mobile phone-based psychotherapies are a feasible and acceptable treatment option for patients with mental disorders. However, there remains a paucity of data on their effectiveness in real-world settings, especially from low- and middle-income countries.

DOI: 10.4103/0253-7176.198956

PMCID: PMC5329989

PMID: 28250552

Conflict of interest statement: There are no conflicts of interest.

147: Mishra PR, Barik M, Ray SB. Effect of Nimodipine on Morphine-related Withdrawal Syndrome in Rat Model: An Observational Study. *J Pediatr Neurosci*. 2017 Jan-Mar;12(1):7-14. doi: 10.4103/1817-1745.205652. PubMed PMID: 28553371; PubMed Central PMCID: PMC5437795.

**OBJECTIVE:** To observe the effect of L-type calcium channel blocker like nimodipine on morphine's withdrawal when it was administered continuously along with morphine versus a single bolus dose of nimodipine, which was administered at the end of the experiment before the precipitation of withdrawal reaction in morphine-dependent rats.

**MATERIALS AND METHODS:** Four groups of adult male Wistar rats were rendered morphine dependent by subcutaneous injections of morphine at a dose of 10 mg/kg for 10 days. Nimodipine 10 mg/kg intraperitoneally (ip) administered to one group once daily before morphine administration in the entire experimental period, and another group received nimodipine only once at the end of the experiment as a single bolus dose 2 mg/kg before the administration of naloxone. Naloxone 3 mg/kg was administered ip to all the groups to precipitate withdrawal reactions. The withdrawal reactions were evaluated and scored as per the Gellert and Holtzman global withdrawal rating scale.

**RESULTS:** Nimodipine when administered as a single bolus dose before naloxone administration in morphine-dependant rats reduced the features of withdrawal reactions more effectively than continuous administration of nimodipine along with morphine throughout the experimental period.

**CONCLUSION:** We discovered that nimodipine helps in attenuating the severity of morphine withdrawal having potential role encountered during pharmacotherapy with morphine management of opioid dependence, well memory, impairment, cell signaling and phosphorylation of neuron.

DOI: 10.4103/1817-1745.205652

PMCID: PMC5437795

PMID: 28553371

Conflict of interest statement: There are no conflicts of interest.

148: Mishra PR, Aggarwal P, Nayer J, Ekka M, Bhoi S. USG guided cardiopulmonary resuscitation:time to correct reversible causes. *Resuscitation*. 2017 Apr;113:e1. doi: 10.1016/j.resuscitation.2016.08.035. Epub 2017 Jan 18. PubMed PMID: 28109999.

149: Mittal K, Gupta S, Khokhar S, Vanathi M, Sharma N, Agarwal T, Vajpayee RB.

Evaluation of Autograft Characteristics After Pterygium Excision Surgery: Autologous Blood Coagulum Versus Fibrin Glue. Eye Contact Lens. 2017 Jan;43(1):68-72. doi: 10.1097/ICL.0000000000000235. PubMed PMID: 26783976.

**PURPOSE:** To compare graft outcomes following pterygium excision and conjunctival autograft fixation using patient's in situ autologous blood or standard fibrin glue-assisted conjunctival autograft adhesion.

**METHODS:** Outcomes of 23 consecutive eyes which underwent pterygium excision and conjunctival autograft with autologous in situ blood coagulum (group I) were compared with historical case controls (20 eyes) that had undergone fibrin glue-assisted conjunctival autograft (group II). Primary outcome measure was graft stability. Secondary outcome measure was severity of graft inflammation at day 1, day 7, 3 months, and 6 months.

**RESULTS:** The two groups were similar regarding age, gender, uncorrected visual acuity (UCVA), best corrected visual acuity (BCVA), refractive error, tear function tests, and pterygium size. Mean surgical time was similar for the two groups (14.2±2.74 min, group I; 12.25±1.88 min, group II; P=0.1); with the mean difference in operative time being 1.95 min (95% CI, 0.48-3.42 min).

Postoperatively, there was a statistically significant reduction in astigmatism and improvement in UCVA, BCVA, and spherical equivalent in all eyes. No difference was found in mean epithelial defect healing time, UCVA, BCVA, astigmatism, tear film break-up time, and Schirmer I and II at 6 months between the two groups. Initial graft stability was better for group II at 1 month (P=0.001) but was similar for both groups at 6 months. Median score of graft inflammation was significantly more for group II during the first week (P<0.05; Wilcoxon rank-sum test).

**CONCLUSION:** Autologous blood may be used as an effective alternative with lesser postoperative inflammation in comparison to glue-assisted autograft fixation.

DOI: 10.1097/ICL.0000000000000235

PMID: 26783976 [Indexed for MEDLINE]

150: Mittal P, Kumar A, Kaur S, Pandove PK, Singla RL, Singh J. A Comparative Study of the Use of Harmonic Scalpel versus Unipolar Cautery in Modified Radical Mastectomy. Niger J Surg. 2017 Jan-Jun;23(1):20-25. doi: 10.4103/1117-6806.199962. PubMed PMID: 28584507; PubMed Central PMCID: PMC5441211.

**CONTEXT:** Oncosurgery is an emerging branch with the set goals of prolonging the life and ensuring the best possible quality of life to the surviving patient. The use of harmonic scalpel has proved to be beneficial in a variety of surgeries but its role in breast surgery is still controversial.

**AIMS:** We conducted this study to compare the intraoperative and postoperative outcomes in modified radical mastectomy using harmonic scalpel versus electrocautery.

**SUBJECTS AND METHODS:** Fifty female patients with confirmed diagnosis of breast carcinoma and planned for modified radical mastectomy were taken up for surgery. Twenty-five patients were operated using harmonic scalpel (Group A) and another 25 were operated using unipolar cautery (Group B).

**RESULTS:** The mean operative time was significantly longer with harmonic scalpel when compared to that with electrocautery (140.40 ± 29.96 vs. 99.80 ± 24.00 min, P < 0.001). The smaller amount of drainage content (431.60 ± 145.94 vs. 594.20 ± 278.63, P = 0.013) and intraoperative blood loss (426.00 ± 76.54 vs. 502.00 ± 104.56, P = 0.005) in the group operated with the ultrasound harmonic scalpel was statistically significant. There was no significant difference between the groups with regard to drain duration (5.24 ± 0.97, P = 0.127), seroma (12% vs. 16%, P = 0.684), hematoma (4% vs. 4%, P = 1.000), wound infection (24% vs. 32%, P = 0.529), flap necrosis (8% vs. 28%, P = 0.066), pain intensity (measured on visual analog scale) (5.08 ± 1.29 vs. 5.20 ± 1.68, P = 0.778), and lymphedema (4% vs. 8%, P = 0.552). The length of hospital stay could not be compared effectively because all the patients were discharged on the 10(th) or 11(th) postoperative day. The cost of the equipment used in the electrocautery group was almost negligible as compared to the harmonic group.

CONCLUSIONS: The use of harmonic scalpel versus electrocautery is somewhat advantageous but not cost-effective.

DOI: 10.4103/1117-6806.199962  
PMCID: PMC5441211  
PMID: 28584507

Conflict of interest statement: There are no conflicts of interest.

151: Mittal R. Posttraumatic stiff elbow. Indian J Orthop. 2017 Jan-Feb;51(1):4-13. doi: 10.4103/0019-5413.197514. Review. PubMed PMID: 28216745; PubMed Central PMCID: PMC5296847.

Posttraumatic stiff elbow is a frequent and disabling complication and poses serious challenges for its management. In this review forty studies were included to know about the magnitude of the problem, causes, pathology, prevention, and treatment of posttraumatic stiff elbow. These studies show that simple measures such as internal fixation, immobilization in extension, and early motion of elbow joint are the most important steps that can prevent elbow stiffness. It also supports conservative treatment in selected cases. There are no clear guidelines about the choice between the numerous procedures described in literature. However, this review article disproves two major beliefs-heterotopic ossification is a bad prognostic feature, and passive mobilization of elbow causes elbow stiffness.

DOI: 10.4103/0019-5413.197514  
PMCID: PMC5296847  
PMID: 28216745

Conflict of interest statement: There are no conflicts of interest.

152: Mittal S, M A, Shankar V, Singh S, Sharma P, Mittal R. Patellar inversion: 180 degree rotation of the patella around its vertical axis within the intercondylar notch. Knee. 2017 Jan;24(1):158-162. doi: 10.1016/j.knee.2016.10.005. Epub 2016 Oct 28. PubMed PMID: 28029579.

BACKGROUND: Dislocation of the patella can occur around its vertical as well as horizontal axis. However, near 180 degree rotation of the patella around its vertical axis within the intercondylar notch without its complete dislocation has never been previously reported to the best of our knowledge. We report one such neglected case along with its management.

METHODS: The patient underwent open reduction and de-rotation of patella with repair of the medial and lateral patellar retinacula. The orientation of the patellar tendon intra-operatively was used as a guide for the reduction manoeuvre required.

RESULTS: The patient had a good functional result at more than one year of follow-up.

CONCLUSIONS: A skyline view of the knee in symptomatic patients with normal AP and lateral radiographs of the knee can be useful in diagnosing a rare intra-articular dislocation of the patella around its vertical axis. Neglected cases of such injuries can be easily treated with open reduction with the orientation of the patellar tendon guiding the manoeuvre to de-rotate the patella. Careful repair of lateral and medial retinacula in such cases is important in preventing future patellar instability.

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DOI: 10.1016/j.knee.2016.10.005  
PMID: 28029579

153: Mohan A, Arora S, Uniyal A, Poulouse R, Luthra K, Pandey RM, Guleria R. Evaluation of plasma leptin, tumor necrosis factor- $\alpha$ , and prealbumin as



prognostic biomarkers during clinical recovery from acute exacerbations of chronic obstructive pulmonary disease. *Lung India*. 2017 Jan-Feb;34(1):3-8. doi: 10.4103/0970-2113.197101. PubMed PMID: 28144052; PubMed Central PMCID: PMC5234195.

**BACKGROUND:** Inflammatory and nutritional biomarkers have an important bearing on outcomes of acute exacerbations of chronic obstructive pulmonary disease (AECOPD), but the temporal profile of these compounds during an acute episode is unclear.

**PATIENTS AND METHODS:** Plasma leptin, prealbumin, and tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) were estimated at baseline and before hospital discharge in patients with AECOPD.

**RESULTS:** A total of 82 patients were evaluated (66 males; mean (standard deviation) age, 61.6 (10.1) years. Of these, 74 subjects (90.2%) were current or former smokers, with median (range) pack-years of 15 (0-96), duration of COPD of 8 years (range, 2-25 years) and duration of current symptoms being 5 days (range, 1-30 days). Majority (41.5%) had type I (severe) exacerbation. During the current episode, 46 patients (58.9%) required mechanical ventilation for a median of 6 days (range, 1-34). The median duration of hospital stay was 13 days, (range, 1-110). At discharge, significant reduction was observed in dyspnea, total leukocyte count, erythrocyte sedimentation rate (ESR), partial pressure of carbon dioxide, hemoglobin, urea, creatinine, potassium, aspartate transferase, and TNF- $\alpha$  levels compared to baseline, whereas arterial pH, PO<sub>2</sub>, serum albumin, prealbumin, and leptin significantly improved. No difference was seen in leptin, prealbumin, and TNF- $\alpha$  between patients with mild/moderate and severe exacerbation, or between patients who required or did not require mechanical ventilation. Change in leptin correlated with body mass index and change in ESR; no associations were observed between leptin, prealbumin, and TNF- $\alpha$  with other clinico-laboratory variables.

**CONCLUSION:** Plasma levels of novel inflammatory and nutritional biomarkers, i.e., leptin, TNF- $\alpha$ , and prealbumin are altered in AECOPD episodes and lag behind other parameters during recovery. These biomarkers are not reliable predictors of clinical outcomes in these patients.

DOI: 10.4103/0970-2113.197101

PMCID: PMC5234195

PMID: 28144052

Conflict of interest statement: There are no conflicts of interest.

154: Mohan A, Tiwari P, Madan K, Hadda V, Poulose R, Bhalla AS, Khandelwal R, Khilnani GC, Guleria R. Intrabronchial Voriconazole is a Safe and Effective Measure for Hemoptysis Control in Pulmonary Aspergilloma. *J Bronchology Interv Pulmonol*. 2017 Jan;24(1):29-34. PubMed PMID: 27623423.

**BACKGROUND:** Hemoptysis is common in pulmonary aspergilloma. Current treatment modalities such as surgical resection or bronchial artery embolization (BAE) are limited by lack of technical expertise and risk of recurrence, respectively. We describe our experience of treating aspergilloma and hemoptysis with bronchoscopic instillation of voriconazole.

**METHODS:** We retrospectively reviewed records of patients with symptomatic aspergilloma undergoing bronchoscopic voriconazole instillation. Four sessions were carried out at weekly intervals using 400 mg voriconazole dissolved in 20 mL 0.9% normal saline.

**RESULTS:** A total of 82 subjects were evaluated [66 males; mean (SD) age, 43.2 (14.1) y]. The commonest underlying etiology was posttubercular sequelae (95.1%). Of these, 18 patients (22%) had BAE within the last 1 year. The mean (SD) size of aspergilloma was 4.5 cm (1.5 cm). Following voriconazole instillation, 25 patients (30.5%) had significant resolution of hemoptysis after first session, and 52 patients (68.3%) after the second session. Transient postprocedure cough (n=38; 46.3%) was the commonest procedure-related adverse event. Follow-up CT (n=47) showed reduction in aspergilloma size in 54% and no change in 40.4%. The median (IQR) hemoptysis-free period was 12 months (IQR, 9 to 15.5 mo). Recurrence

of significant hemoptysis occurred in 24 (29.3%) patients during a median follow-up of 14.5 months (IQR, 9-18 mo). A history of prior BAE and baseline aspergilloma size were significantly associated with recurrence of significant hemoptysis.

CONCLUSION: Intrabronchial voriconazole instillation seems to be a safe and effective modality for hemoptysis control in pulmonary aspergilloma.

DOI: 10.1097/LBR.0000000000000321

PMID: 27623423 [Indexed for MEDLINE]

155: Mohanty K, Dada R, Dada T. Oxidative DNA damage and reduced expression of DNA repair genes: Role in primary open angle glaucoma (POAG). *Ophthalmic Genet.* 2017 Jan 27;1-5. doi: 10.1080/13816810.2016.1261904. [Epub ahead of print] PubMed PMID: 28129013.

BACKGROUND: Controversy exists regarding the role of oxidative DNA damage and DNA repair in primary open angle glaucoma (POAG). We performed a case control study to test the hypothesis that oxidative DNA damage and base excision repair (BER) genes PARP1 and OGG1 are involved in POAG pathogenesis.

MATERIALS AND METHODS: The study included 116 POAG patients and 116 cataract patients as controls. The 8-hydroxy-2'-deoxyguanosine (8-OHdG) levels were measured by ELISA. RNA was extracted from blood by Trizol and converted to cDNA. The relative quantification of PARP1 and OGG1 genes normalized to  $\beta$ -actin was calculated by the 2(- $\Delta$ Ct) method. Comparisons between groups were done by student's t-test and correlation between parameters was seen by Pearson correlation coefficient. All p values less than 0.05 were considered significant. RESULTS: Mean levels of 8-OHdG were (patients v/s controls)  $19.53 \pm 1.40$  vs.  $15.0 \pm 2.6$  ng/ml in plasma and  $8.55 \pm 1.94$  vs.  $5.15 \pm 1.09$  ng/ml in aqueous humor ( $p < 0.0001$ ). Expression levels of PARP1 ( $0.44 \pm 0.05$  vs.  $0.88 \pm 0.04$ ) and OGG1 ( $0.46 \pm 0.05$  vs.  $0.8 \pm 0.01$ ) were significantly ( $p < 0.0001$ ) less in the patients than controls. There was a significant negative correlation between the expression levels of PARP1 and OGG1 with plasma and aqueous 8-OHdG. There was a strong positive correlation between plasma and aqueous 8-OHdG levels.

CONCLUSION: These results support our hypothesis that oxidative stress-induced DNA damage is associated with POAG. Increased oxidative DNA damage in POAG may be attributed to decreased expression of DNA repair enzymes of the BER pathway.

DOI: 10.1080/13816810.2016.1261904

PMID: 28129013

156: Muellner T, Kumar S, Singla A. Proximal hamstring reconstruction using semitendinosus and gracilis autograft: a novel technique. *Knee Surg Sports Traumatol Arthrosc.* 2017 Jan;25(1):112-114. doi: 10.1007/s00167-016-4366-9. Epub 2016 Nov 8. PubMed PMID: 27826636.

The complete proximal hamstring avulsion is relatively uncommon injury and predominantly occurs in young athletes but causes significant functional impairment. In chronic cases, the muscle mass is so much retracted that primary repair is not possible. A surgical technique for reconstruction of chronic proximal hamstring avulsion using contralateral semitendinosus and gracilis autograft is described in this case report. LEVEL OF EVIDENCE: V.

DOI: 10.1007/s00167-016-4366-9

PMID: 27826636 [Indexed for MEDLINE]

157: Nambirajan A, Shukla AK, Mathur SR, Kumar H, Kumar R, Bhowmik DM, Singh A, Jain D, Sharma MC, Kaushal S. Condyloma Acuminatum of Urinary Bladder in a Male Renal Transplant Recipient - A Diagnostic and Therapeutic Challenge. *Clin Genitourin Cancer.* 2017 Aug;15(4):e739-e742. doi: 10.1016/j.clgc.2016.12.007. Epub 2017 Jan 4. PubMed PMID: 28089720.

158: Ojha A, Nandi D, Batra H, Singhal R, Annarapu GK, Bhattacharyya S, Seth T,

Dar L, Medigeshi GR, Vrati S, Vikram NK, Guchhait P. Platelet activation determines the severity of thrombocytopenia in dengue infection. *Sci Rep.* 2017 Jan 31;7:41697. doi: 10.1038/srep41697. PubMed PMID: 28139770; PubMed Central PMCID: PMC5282509.

Thrombocytopenia is common in patients with dengue virus (DENV) infections. With a focus on understanding the possible mechanism of thrombocytopenia in DENV infections we described a direct correlation between activation and depletion of platelets in patients. Our data showed a sharp decrease in platelet counts at day 4 of fever in patients. The high DENV genome copies in platelets correlated directly with the elevated platelet activation along with increased binding of complement factor C3 and IgG on their surface at day 4. Recovery in platelet count was observed on day 10 through day 6 and 8 with simultaneous decrease in platelet activation markers. Further, our in vitro data supported the above observations describing a concentration-dependent increase in platelet activation by DENV serotype-2. The high copy number of DENV2 genome in the platelet pellet correlated directly with platelet activation, microparticle generation and clot formation. Furthermore the DENV2-activated platelets were phagocytosed in large numbers by the monocytes. The DENV2-mediated lysis and clearance of platelets were abrogated in presence of platelet activation inhibitor, prostacyclin. These observations collectively suggest that platelet activation status is an important determinant of thrombocytopenia in dengue infections. A careful strategy of inactivation of platelets may rescue them from rapid destruction during DENV infections.

DOI: 10.1038/srep41697

PMCID: PMC5282509

PMID: 28139770

Conflict of interest statement: The authors declare no competing financial interests.

159: Panda A, Kumar A, Gamanagatti S, Das R, Paliwal S, Gupta A, Kumar S. Can multidetector CT detect the site of gastrointestinal tract injury in trauma? - A retrospective study. *Diagn Interv Radiol.* 2017 Jan-Feb;23(1):29-36. doi: 10.5152/dir.2016.15481. PubMed PMID: 27924777; PubMed Central PMCID: PMC5214073.

**PURPOSE:** We aimed to assess the performance of computed tomography (CT) in localizing site of traumatic gastrointestinal tract (GIT) injury and determine the diagnostic value of CT signs in site localization.

**METHODS:** CT scans of 97 patients with surgically proven GIT or mesenteric injuries were retrospectively reviewed by radiologists blinded to surgical findings. Diagnosis of either GIT or mesenteric injuries was made. In patients with GIT injuries, site of injury and presence of CT signs such as focal bowel wall hyperenhancement, hypoenhancement, wall discontinuity, wall thickening, extramural air, intramural air, perivisceral infiltration, and active vascular contrast leak were evaluated.

**RESULTS:** Out of 97 patients, 90 had GIT injuries (70 single site injuries and 20 multiple site injuries) and seven had isolated mesenteric injury. The overall concordance between CT and operative findings for exact site localization was 67.8% (61/90), partial concordance rate was 11.1% (10/90), and discordance rate was 21.1% (19/90). For single site localization, concordance rate was 77.1% (54/70), discordance rate was 21.4% (15/70), and partial concordance rate was 1.4% (1/70). In multiple site injury, concordance rate for all sites of injury was 35% (7/20), partial concordance rate was 45% (9/20), and discordance rate was 20% (4/20). For upper GIT injuries, wall discontinuity was the most accurate sign for localization. For small bowel injury, intramural air and hyperenhancement were the most specific signs for site localization, while for large bowel injury, wall discontinuity and hypoenhancement were the most specific signs.

**CONCLUSION:** CT performs better in diagnosing small bowel injury compared with large bowel injury. CT can well predict the presence of multiple site injury but has limited performance in exact localization of all injury sites.

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PMCID: PMC5214073  
PMID: 27924777 [Indexed for MEDLINE]

Conflict of interest statement: disclosure The authors declared no conflicts of interest.

160: Panda PK, Mavidi SK, Wig N, Garg A, Nalwa A, Sharma MC. Intracranial Aspergillosis in an Immunocompetent Young Woman. *Mycopathologia*. 2017 Jun;182(5-6):527-538. doi: 10.1007/s11046-016-0106-4. Epub 2017 Jan 4. PubMed PMID: 28054219.

Intracranial aspergillosis (ICA) is very rare in the immunocompetent individuals, usually misdiagnosed as a tumor or an abscess. A high index of clinical suspicion is required in patients who present with focal neurological deficits, headache, or seizures. We report the case of a 25-year-old immunocompetent female, who presented with a 15-month history of headache, seizures, left-sided proptosis and ophthalmoplegia, and right hemiparesis. Recovery from the symptoms and decrease in the lesion size seen on the radiological assessment were achieved through two decompressive craniotomies followed by prolonged combined systemic antifungal therapies. Although the initial neuroimaging suggested a mitotic pathology, the surgical sample confirmed ICA. Now the patient is on single antifungal therapy (Tab. voriconazole, 200 mg twice daily) and doing her daily activities, but with a reduced intelligent quotient. We report a challenging case of ICA where multiple courses of combined antifungal therapies and repeat surgeries paved the way for a good prognosis.

DOI: 10.1007/s11046-016-0106-4  
PMID: 28054219

161: Parida GK, Roy SG, Sharma A, Patel CD. Detection of Thymoma on 99mTc MIBI Scintigraphy: Revisiting the Past. *Indian J Nucl Med*. 2017 Jan-Mar;32(1):57-58. doi: 10.4103/0972-3919.198484. PubMed PMID: 28242989; PubMed Central PMCID: PMC5317074.

Although thymoma is a rare tumor, it is the most common anterior mediastinal tumor, usually affecting the adults in their fifth and sixth decade. We present a case of 68-year-old man with history of myocardial infarction, who presented to the cardiology OPD with recent onset of exertional dyspnea. On 99mTc MIBI myocardial perfusion SPECT, there was an extra cardiac accumulation of radiotracer in the anterior mediastinum just above the heart, which later was diagnosed as thymoma on histopathology.

DOI: 10.4103/0972-3919.198484  
PMCID: PMC5317074  
PMID: 28242989

Conflict of interest statement: There are no conflicts of interest.

162: Parmeswaran GG, Kalaivani M, Gupta SK, Goswami AK, Nongkynrih B. Unintentional Childhood Injuries in Urban Delhi: A Community-Based Study. *Indian J Community Med*. 2017 Jan-Mar;42(1):8-12. doi: 10.4103/0970-0218.199791. PubMed PMID: 28331247; PubMed Central PMCID: PMC5349010.

BACKGROUND: Childhood injuries claim around a million lives around the world each year. A community-based study on childhood injuries would provide valuable information on the epidemiology of injuries.

OBJECTIVE: To assess the prevalence of unintentional childhood injuries in an urban locality and determine various sociodemographic factors associated with childhood injuries.

METHODS: The study was done in urban Delhi among 1,639 children aged less than 18 years. Information on injuries in the last one year was collected. Only those

injury episodes where treatment was sought or the child was left disabled after the injury were included. Treatment seeking behavior and the impact of injury on the child and the household were also assessed.

**RESULTS:** Among 1,639 children, 102 children suffered 116 episodes of various types of injuries in the last one year. Prevalence of injuries was 7.1% (95% CI: 5.9-8.4). Mean age was  $8.5 \pm 5.1$  years. Prevalence was more in boys (8.4%) than girls (5.1%). Accidental falls (37.1%), dog bites (25%), and road traffic injuries (18.9%) were the three most common modes of injury. Two-thirds of children with injuries were taken to the emergency facility for treatment while 40% resorted to home remedies. Treatment expenses in some families led to the need for borrowing money, additional employment by another family member, and selling of household assets.

**CONCLUSIONS:** The prevalence of childhood injuries in the past one year was 7.1%. Maximum injuries occurred at home and were mostly accidental falls and dog bites. Childhood injuries caused loss of school attendance and financial burden to the family.

DOI: 10.4103/0970-0218.199791

PMCID: PMC5349010

PMID: 28331247

Conflict of interest statement: There are no conflicts of interest.

163: Passah A, Tripathi M, Ballal S, Yadav MP, Kumar R, Roesch F, Meckel M, Sarathi Chakraborty P, Bal C. Evaluation of bone-seeking novel radiotracer (68)Ga-NO2AP-Bisphosphonate for the detection of skeletal metastases in carcinoma breast. *Eur J Nucl Med Mol Imaging*. 2017 Jan;44(1):41-49. Epub 2016 Jul 25. PubMed PMID: 27455986.

**PURPOSE:** The successful labelling of bisphosphonates (BP) with (68)Ga using macrocyclic chelators such as the based triazacyclononane (NO2AP) is a step forward in the in-house availability of a novel bone-seeking PET radiopharmaceutical with dual advantage of PET/CT imaging and generator production. In this study, we compared the novel generator-based skeletal radiotracer (68)Ga-1,4,7-triazacyclononane-1,4-diacetic acid ((68)Ga-NO2AP-BP) with sodium fluoride ((18)F-NaF) for the detection of skeletal metastases in breast cancer patients. In addition, dosimetric analysis of (68)Ga-NO2AP-BP was performed in a subset of patients.

**METHODS:** This was a prospective study of histopathologically proven cases of breast cancer patients who were referred for bone scintigraphy and underwent positron emission tomography/computed tomography (PET/CT) with (18)F-NaF and (68)Ga-NO2AP-BP within a week in random order. The scans of each patient were compared both qualitatively for image quality and quantitatively for number of lesions and SUVmax of lesions. Dosimetric analysis was performed in five patients. Their PET/CT scans were acquired at multiple time points and urine and blood samples were collected. Dosimetric calculations were performed using OLINDA/EXM 1.1 software. Statistical analysis was done using Stata 13 (StataCorp) software package. An agreement analysis regarding number of lesions detected with the two skeletal radiotracers was carried out.

**RESULTS:** The image quality of (68)Ga-NO2AP-BP PET/CT scans were comparable to that of (18)F-NaF. There was no statistically significant difference in the SUVmax of lesions, normal bone and lesion to background ratio between the two skeletal radiotracers. There was good agreement in the number of lesions detected by both skeletal radiotracers. The mean whole body effective dose for (68)Ga-NO2AP-BP was 0.00583 mSv/MBq and the effective dose equivalent was 0.0086 mSv/MBq.

**CONCLUSION:** The excellent lesion detection agreement between (68)Ga-NO2AP-BP and (18)F-NaF favours the former as an alternative for skeletal scintigraphy in centres without an on-site cyclotron. The favourable dosimetric results and its potential to be used as a theranostic agent makes it an important generator-based skeletal radiotracer.

DOI: 10.1007/s00259-016-3469-3

164: Patel D, Tandon R, Ganger A, Vij A, Lalwani S, Kumar A. Study of death to preservation time and its impact on utilisation of donor corneas. *Trop Doct.* 2017 Jan 1;49:475517713406. doi: 10.1177/0049475517713406. [Epub ahead of print] PubMed PMID: 28610538.

To evaluate the impact of death-to-preservation time (DPT) on effective utilisation of donor corneas. In a prospective observational study conducted at our tertiary eye centre, donated corneas received over a 15-month period from November 2011 to January 2013 were evaluated. Donor age, donor refrigeration (done or not), DPT, endothelial cell density (ECD), corneal grading, clinical utilisation and surgical outcome after graft transplantation were noted. To analyse the impact of different DPT on donor cornea transplantation, primary outcome measures (corneal grading and endothelial cell density) and secondary outcome measures (primary graft failure and graft infection) were analysed. A total of 990 corneas were assessed. Primary outcomes showed no significant difference for higher DPT ( $P > 0.01$ ). ECD, where DPT was  $> 12$  h, was better for refrigerated corneas ( $P < 0.001$ ). Prolonged DPT had no significant effect on primary graft failure ( $P = 0.131$ ) and graft infection ( $P = 0.137$ ) in the first month after transplantation. We find that DPT should not be the only criteria to assess the cornea quality; other donor characteristics should be considered equally important. Donor refrigeration should be encouraged in cases where early retrieval is not possible.

DOI: 10.1177/0049475517713406

PMID: 28610538

165: Patel SA, Deepa M, Shivashankar R, Ali MK, Kapoor D, Gupta R, Lall D, Tandon N, Mohan V, Kadir MM, Fatmi Z, Prabhakaran D, Narayan KMV. Comparison of multiple obesity indices for cardiovascular disease risk classification in South Asian adults: The CARRS Study. *PLoS One.* 2017 Apr 27;12(4):e0174251. doi: 10.1371/journal.pone.0174251. eCollection 2017. PubMed PMID: 28448582; PubMed Central PMCID: PMC5407781.

**BACKGROUND:** We comparatively assessed the performance of six simple obesity indices to identify adults with cardiovascular disease (CVD) risk factors in a diverse and contemporary South Asian population.

**METHODS:** 8,892 participants aged 20-60 years in 2010-2011 were analyzed. Six obesity indices were examined: body mass index (BMI), waist circumference (WC), waist-height ratio (WHtR), waist-hip ratio (WHR), log of the sum of triceps and subscapular skin fold thickness (LTS), and percent body fat derived from bioelectric impedance analysis (BIA). We estimated models with obesity indices specified as deciles and as continuous linear variables to predict prevalent hypertension, diabetes, and high cholesterol and report associations (prevalence ratios, PRs), discrimination (area-under-the-curve, AUCs), and calibration (index  $\chi^2$ ). We also examined a composite unhealthy cardiovascular profile score summarizing glucose, lipids, and blood pressure.

**RESULTS:** No single obesity index consistently performed statistically significantly better than the others across the outcome models. Based on point estimates, WHtR trended towards best performance in classifying diabetes (PR = 1.58 [1.45-1.72], AUC = 0.77, men; PR = 1.59 [1.47-1.71], AUC = 0.80, women) and hypertension (PR = 1.34 [1.26,1.42], AUC = 0.70, men; PR = 1.41 [1.33,1.50], AUC = 0.78, women). WC (mean difference = 0.24 SD [0.21-0.27]) and WHtR (mean difference = 0.24 SD [0.21,0.28]) had the strongest associations with the composite unhealthy cardiovascular profile score in women but not in men.

**CONCLUSIONS:** WC and WHtR were the most useful indices for identifying South Asian adults with prevalent diabetes and hypertension. Collection of waist circumference data in South Asian health surveys will be informative for population-based CVD surveillance efforts.

DOI: 10.1371/journal.pone.0174251

PMCID: PMC5407781

166: Prabhakar P, Reeta KH, Maulik SK, Dinda AK, Gupta YK.  $\alpha$ -Amyrin attenuates high fructose diet-induced metabolic syndrome in rats. *Appl Physiol Nutr Metab*. 2017 Jan;42(1):23-32. doi: 10.1139/apnm-2016-0088. Epub 2016 Sep 2. PubMed PMID: 27911087.

This study investigated the effect of  $\alpha$ -amyrin (a pentacyclic triterpene) on high-fructose diet (HFD)-induced metabolic syndrome in rats. Male Wistar rats were randomly distributed into different groups. The control group was fed normal rat chow diet. The HFD group was fed HFD (60%; w/w) for 42 days. Pioglitazone (10 mg/kg, orally, once daily) was used as a standard drug.  $\alpha$ -Amyrin was administered in 3 doses (50, 100, and 200 mg/kg, orally, once daily along with HFD). Plasma glucose, total cholesterol, triglycerides, and high-density lipoprotein cholesterol (HDL-C) were estimated. Changes in blood pressure, oral glucose tolerance, and insulin tolerance were measured. Hepatic oxidative stress as well as messenger RNA (mRNA) and protein levels of peroxisome proliferator-activated receptor alpha (PPAR- $\alpha$ ) were analyzed. A significant increase in systolic blood pressure, plasma glucose, total cholesterol, and plasma triglycerides and a significant decrease in HDL-C were observed in HFD rats as compared with control rats. Glucose tolerance and insulin tolerance were also significantly impaired with HFD.  $\alpha$ -Amyrin prevented these changes in a dose-dependent manner. Hepatic oxidative stress as well as micro- and macrovesicular fatty changes in hepatocytes caused by HFD were also attenuated by  $\alpha$ -amyrin.  $\alpha$ -Amyrin preserved the hepatic mRNA and protein levels of PPAR- $\alpha$ , which was reduced in HFD group. This study thus demonstrates that  $\alpha$ -amyrin attenuates HFD-induced metabolic syndrome in rats.

DOI: 10.1139/apnm-2016-0088

PMID: 27911087 [Indexed for MEDLINE]

167: Pratap Mouli V, Munot K, Ananthakrishnan A, Kedia S, Addagalla S, Garg SK, Benjamin J, Singla V, Dhingra R, Tiwari V, Bopanna S, Hutfless S, Makharia G, Ahuja V. Endoscopic and clinical responses to anti-tubercular therapy can differentiate intestinal tuberculosis from Crohn's disease. *Aliment Pharmacol Ther*. 2017 Jan;45(1):27-36. doi: 10.1111/apt.13840. Epub 2016 Nov 4. PubMed PMID: 27813111.

**BACKGROUND:** Differentiation between intestinal tuberculosis and Crohn's disease is difficult and may require therapeutic trial with anti-tubercular therapy in tuberculosis-endemic regions.

**AIM:** To evaluate the role of therapeutic trial with anti-tubercular therapy in patients with diagnostic confusion between intestinal tuberculosis and Crohn's disease.

**METHODS:** We performed retrospective-comparative (n = 288: 131 patients who received anti-tubercular therapy before being diagnosed as Crohn's disease and 157 intestinal tuberculosis patients) and prospective-validation study (n = 55 patients with diagnostic confusion of intestinal tuberculosis/Crohn's disease). Outcomes assessed were global symptomatic response and endoscopic mucosal healing.

**RESULTS:** In the derivation cohort, among those eventually diagnosed as Crohn's disease, global symptomatic response with anti-tubercular therapy was seen in 38% at 3 months and in 37% who completed 6 months of anti-tubercular therapy.

Ninety-four per cent of intestinal tuberculosis patients showed global symptomatic response by 3 months. Endoscopic mucosal healing was seen in only 5% of patients with Crohn's disease compared with 100% of intestinal tuberculosis patients. In the validation cohort, all the patients with intestinal tuberculosis had symptomatic response and endoscopic mucosal healing after 6 months of anti-tubercular therapy. Among the patients with an eventual diagnosis of Crohn's disease, symptomatic response was seen in 64% at 2 months and in 31% who completed 6 months of anti-tubercular therapy, none had mucosal healing.

**CONCLUSIONS:** Disproportionately lower mucosal healing rate despite an overall

symptom response with 6 months of anti-tubercular therapy in patients with Crohn's disease suggests a need for repeat colonoscopy for diagnosing Crohn's disease. Patients with intestinal tuberculosis showing significant symptomatic response after 2-3 months of anti-tubercular therapy, suggest that symptom persistence after a therapeutic trial of 3 months of anti-tubercular therapy may indicate the diagnosis of Crohn's disease.

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DOI: 10.1111/apt.13840

PMID: 27813111

168: Pujari A. Ocular surface squamous neoplasia treated with topical interferon  $\alpha$  2b. *BMJ Case Rep.* 2017 Jan 18;2017. pii: bcr2016218344. doi: 10.1136/bcr-2016-218344. PubMed PMID: 28100578.

169: Pujari A, Pushker N, Changole M, Mukhija R. Ocular mutilation: A case of bilateral self-evisceration in a patient with acute psychosis. *World J Emerg Med.* 2017;8(3):233-234. doi: 10.5847/wjem.j.1920-8642.2017.03.013. PubMed PMID: 28680523; PubMed Central PMCID: PMC5496834.

170: Punia H, Gathwala G, Dhaulakhandi DB, Aamir M. Diagnosis of neonatal sepsis using 16S rRNA polymerase chain reaction. *Trop Doct.* 2017 Jan 1:49475517701875. doi: 10.1177/0049475517701875. [Epub ahead of print] PubMed PMID: 28409532.

The gold standard for detecting bacterial sepsis is blood culture. However, the sensitivity of blood culture is low and the results take 48-72h. Molecular assays for the detection of bacterial DNA permit early detection of a bacterial cause as the turnaround time is 6-8h. We undertook an evaluation of the performance of universal bacterial primer (16S rRNA) polymerase chain reaction (PCR) in the diagnosis of neonatal sepsis at a tertiary care medical college teaching hospital. 16S rRNA PCR was positive in all cases of blood culture proven sepsis. PCR revealed 95.6% sensitivity, 100% specificity, 100% positive predictive value and 91.2% negative predictive value and so appears to be a useful tool for the early diagnosis of bacterial neonatal sepsis.

DOI: 10.1177/0049475517701875

PMID: 28409532

171: Qaiser D, Srivastava A, Ranjan P, Kataria K. Physics for Surgeons Part 3: Why Cyst Is Spherical in Shape? *Indian J Surg.* 2017 Apr;79(2):143-147. doi: 10.1007/s12262-016-1586-7. Epub 2017 Jan 7. Review. PubMed PMID: 28442841; PubMed Central PMCID: PMC5386947.

Physical examination of any swelling is the first step in making a diagnosis. Many a times we see a patient with a spherical swelling, which is usually a cyst. The interpretation of physical signs should be based on sound principles of physics. In the present paper, we explain physical characteristics of a swelling (cyst) using principles of fluid mechanics.

DOI: 10.1007/s12262-016-1586-7

PMCID: PMC5386947 [Available on 2018-04-01]

PMID: 28442841

172: Quraishi R, Jain R, Mishra AK, Ambekar A. Association of ankyrin repeats & kinase domain containing 1 (ANKK1) gene polymorphism with co-morbid alcohol & nicotine dependence: A pilot study from a tertiary care treatment centre in north India. *Indian J Med Res.* 2017 Jan;145(1):33-38. doi: 10.4103/ijmr.IJMR\_458\_14. PubMed PMID: 28574012; PubMed Central PMCID: PMC5460570.

BACKGROUND & OBJECTIVES: The frequently encountered co-morbidity of alcohol



dependence (AD) with nicotine dependence (ND) increases the risk for various diseases. Ankyrin repeats and kinase domain containing 1 (ANKK1) gene polymorphism is reported to be associated with both ND and AD. This study was undertaken to investigate the possible association of alcohol and tobacco use variables with ANKK1 polymorphism in co-morbid alcohol- and nicotine-dependent treatment seekers visiting a tertiary care centre in north India.

**METHODS:** Seventy nine male participants (18-65 yr old) fulfilling diagnostic criteria for ND and AD were included in the study. The socio-demographic data, along with alcohol and tobacco use profile, was recorded and ANKK1 profiling was carried out. Both the allele groups, A1 and A2, were compared with respect to demographic and substance dependence profile. Univariate binary logistic regression analysis was performed to determine the risk of high nicotine and alcohol consumption with genotype.

**RESULTS:** The A1 carrier group (n=33) reported a significantly higher amount of alcohol and tobacco consumed per day. The scores on parameters of ND were found to be significantly higher in this group. The logistic regression analysis revealed that participants with A1 genotype were 2.5 times more likely to report higher amount of alcohol and nicotine consumption than A2 carriers.

**INTERPRETATION & CONCLUSIONS:** The study provides an indication for the association of ANKK1 polymorphism in the form of higher substance consumption among alcohol dependent smokers, who are A1 carriers and thus may require higher attention of the treatment provider.

DOI: 10.4103/ijmr.IJMR\_458\_14

PMCID: PMC5460570

PMID: 28574012

173: Raj R, Gupta V, Pathak M, Sreenivas V, Sood S, Singh S, Verma KK, Khanna N, Das BK, Gupta S. What puts them at risk? A cross-sectional case-control survey of demographic profile and sexual behavior of patients with sexually transmitted infections at a tertiary care center in North India. *Indian J Sex Transm Dis.* 2017 Jan-Jun;38(1):22-36. doi: 10.4103/0253-7184.196885. PubMed PMID: 28442800; PubMed Central PMCID: PMC5389212.

**BACKGROUND:** Sexually transmitted infections (STIs) are a major public health problem in developing nations. Identification of risk factors can help in formulating effective strategies against them. The present study was conducted in a tertiary care hospital in North India over 1 year to identify the risk factors associated with STIs.

**MATERIALS AND METHODS:** A questionnaire-based cross-sectional case-control survey was conducted where participants answered questions on demographic details, sexual behavior, and awareness of STIs. Cases were patients with STIs whereas controls were randomly selected from healthy individuals accompanying patients with nonvenereal complaints attending our hospital.

**RESULTS:** There were 106 cases and 64 controls. STI patients had sexual debut 2 years before controls. A higher proportion of STI cases had lower education, multiple sexual partners, lived separately from their partner, had nonregular partners, had protected sex in the last month, had sex under influence of alcohol/illicit drugs, sex in unstructured settings, and engaged in transactional sex, in comparison to controls ( $P < 0.05$ ). More cases were aware of the symptoms/preventive measures of STIs ( $P < 0.001$ ). On multivariate analysis, multiple sexual partners, sex under influence of alcohol/illicit drugs with nonregular partner, protected sex in the last month, and knowledge of preventive measures were found to be statistically associated with STIs ( $P < 0.05$ ).

**CONCLUSIONS:** Our study identifies risk-behavior patterns in patients with STIs, which should be modified to reduce the burden of these diseases. Increasing the knowledge about STIs in these patients can translate into more common condom usage that lends support for strengthening sexual health programs at grass-root levels.

**LIMITATIONS:** The small size of the study population could have led to decreased power of the study to detect differences between cases and controls. The external validity of our results needs to be tested in different population groups involving larger sample sizes.

DOI: 10.4103/0253-7184.196885  
PMCID: PMC5389212  
PMID: 28442800

Conflict of interest statement: There are no conflicts of interest.

174: Rajeev R, Giri B, Choudhary LP, Kumar R. Surgery for benign prostatic hyperplasia: Profile of patients in a tertiary care institution. *Natl Med J India*. 2017 Jan-Feb;30(1):7-10. PubMed PMID: 28730999.

**BACKGROUND:** Medical therapy is widely used for managing benign prostatic hyperplasia (BPH) and has made an impact on the profile of patients who ultimately undergo surgery. This changing profile may impact outcomes of surgery and associated complications. To assess the impact of medical management, we evaluated the profile of patients who had surgery for BPH at our institution. **METHODS:** A retrospective chart-review was performed of patient demographics, indications for surgery, preoperative comorbid conditions and postoperative course in patients who underwent surgery for BPH over a 5-year period. The data were analysed for demographic trends in comparison with historical cohorts. **RESULTS:** A total of 327 patients underwent surgery for BPH between 2008 and 2012. Their mean age was 66.4 years, the mean prostate gland weight was 59.2 g and the mean duration of symptoms was 35.3 months; 34% had a prostate gland weight of >60 g; 159 (48.6%) patients had an absolute indication for surgery; 139 (42.5%) of these were catheterized and 6.1% of patients presented with azotaemia or upper tract changes without urinary retention. **CONCLUSIONS:** In comparison with historical cohorts, more patients are undergoing surgery for absolute indications including retention of urine and hydronephrosis. However, the patients are younger, they have fewer comorbid conditions and have a similar rate of complications after the procedure.

PMID: 28730999

175: Rajkumar S, Sistla S, Manoharan M, Sugumar M, Nagasundaram N, Parija SC, Ray P, Bakthavatchalam YD, Veeraraghavan B, Kapil A, Walia K, Ohri VC. Prevalence and genetic mechanisms of antimicrobial resistance in *Staphylococcus* species: A multicentre report of the Indian Council of Medical Research antimicrobial resistance surveillance network. *Indian J Med Microbiol*. 2017 Jan-Mar;35(1):53-60. doi: 10.4103/ijmm.IJMM\_16\_427. PubMed PMID: 28303819.

**PURPOSE:** Routine surveillance of antimicrobial resistance (AMR) is an essential component of measures aimed to tackle the growing threat of resistant microbes in public health. This study presents a 1-year multicentre report on AMR in *Staphylococcus* species as part of Indian Council of Medical Research-AMR surveillance network.

**MATERIALS AND METHODS:** *Staphylococcus* species was routinely collected in the nodal and regional centres of the network and antimicrobial susceptibility testing was performed against a panel of antimicrobials. Minimum inhibitory concentration (MIC) values of vancomycin (VAN), daptomycin, tigecycline and linezolid (LNZ) against selected methicillin-resistant *Staphylococcus aureus* (MRSA) isolates were determined by E-test and MIC creep, if any, was determined. Resistant genotypes were determined by polymerase chain reaction for those isolates showing phenotypic resistance.

**RESULTS:** The prevalence of MRSA was found to be range from moderate (21%) to high (45%) among the centres with an overall prevalence of 37.3%. High prevalence of resistance was observed with commonly used antimicrobials such as ciprofloxacin and erythromycin in all the centres. Resistance to LNZ was not encountered except for a single case. Full-blown resistance to VAN in *S. aureus* was not observed; however, a few VAN-intermediate *S. aureus* isolates were documented. The most common species of coagulase negative staphylococci (CoNS) identified was *Staphylococcus haemolyticus* and *Staphylococcus epidermidis*. Resistance among CoNS was relatively higher than *S. aureus*. Most phenotypically resistant organisms

possessed the corresponding resistance genes.

CONCLUSION: There were localised differences in the prevalence of resistance between the centres. The efficacy of the anti-MRSA antimicrobials was very high; however, almost all these antimicrobials showed evidence of creeping MIC.

DOI: 10.4103/ijmm.IJMM\_16\_427

PMID: 28303819 [Indexed for MEDLINE]

176: Ramachandran R, Rewari V. Current perioperative management of pheochromocytomas. *Indian J Urol.* 2017 Jan-Mar;33(1):19-25. doi: 10.4103/0970-1591.194781. Review. PubMed PMID: 28197025; PubMed Central PMCID: PMC5264186.

Neuroendocrine tumors which have the potential to secrete catecholamines are either associated with sympathetic adrenal (pheochromocytoma) or nonadrenal (paraganglioma) tissue. Surgical removal of these tumors is always indicated to cure and prevent cardiovascular and other organ system complications associated with catecholamine excess. Some of these tumors have malignant potential as well. The diagnosis, localization and anatomical delineation of these tumors involve measurement of catecholamines and their metabolic end products in plasma and urine, (123)I-metaiodobenzylguanidine scintigraphy, computed tomography, and/or magnetic resonance imaging. Before surgical removal of the tumors, the optimization of blood pressure, as well as intravascular volume, is an important measure to avoid and suppress perioperative adverse hemodynamic events. Preoperative preparation includes the use of alpha-adrenergic antagonists, beta-adrenergic antagonists with or without other antihypertensive agents, fluid therapy as well as insulin therapy for hyperglycemia if required. Due attention should be given to type and dose of alpha-receptor antagonists to be used and the duration of this therapy to achieve an optimal level of preoperative "alpha-blockade." Despite this preoperative preparation, many patients will have hypertensive crises intraoperatively which need to be promptly and carefully managed by the anesthesia team which requires intensive and advanced monitoring techniques. The most common complication after tumor removal is hypotension which may require fluid therapy and vasopressor support for a few hours. With advancement in surgical and anesthetic techniques, the incidence of severe morbidity and mortality associated with the surgery is low in high volume centers.

DOI: 10.4103/0970-1591.194781

PMCID: PMC5264186

PMID: 28197025

Conflict of interest statement: There are no conflicts of interest.

177: Ramachandran SS, Muiwo P, Ahmad HM, Pandey RM, Singh S, Bakhshi S, Kumar L, Bhattacharya A, Gupta YK. miR-505-5p and miR-193b-3p: potential biomarkers of imatinib response in patients with chronic myeloid leukemia. *Leuk Lymphoma.* 2017 Aug;58(8):1981-1984. doi: 10.1080/10428194.2016.1272681. Epub 2017 Jan 16. PubMed PMID: 28093001.

178: Ramalingam K, Vuthaluru S, Srivastava A, Dinda AK, Dhar A. Ultra structural changes occurring in duct ectasia and periductal mastitis and their significance in etiopathogenesis. *PLoS One.* 2017 Mar 8;12(3):e0173216. doi: 10.1371/journal.pone.0173216. eCollection 2017. PubMed PMID: 28273122; PubMed Central PMCID: PMC5342207.

INTRODUCTION: Duct ectasia (DE) and periductal mastitis (PDM) are the most common benign breast conditions seen in women. The etiopathogenesis of these entities is still not clear and most of the theories regarding the causation are based on the histological features as seen on light microscopy. The ultramicroscopic features associated with these conditions that may give more insight to the etiopathogenesis are unknown.

AIM: To study the ultrastructural changes occurring in mammary duct cones in patients with DE and PDM using Transmission Electron Microscopic (TEM).  
METHOD: Major ducts removed by radical duct excision from 21 patients with final histopathological diagnosis of DE and PDM were subjected to TEM study with 2 normal duct samples as controls.  
RESULTS: The TEM features of DE were denudation of the epithelial cells with focal loss of microvilli, widening of the inter-epithelial junctions with focal disruption of the T bars, periductal collagenisation without inflammation, and features suggestive of Epithelial Mesenchymal Transition (EMT). PDM features are intact epithelial lining with proliferative epithelium and periductal collagenisation with inflammation.  
CONCLUSIONS: Based on the TEM findings, we suggest that DE and PDM are two different entities. EMT a novel finding observed in DE in this study.

DOI: 10.1371/journal.pone.0173216  
PMCID: PMC5342207  
PMID: 28273122

179: Rana SS, Kharbanda OP. Letter to editor on "Efficiency of bimaxillary advancement surgery in increasing the volume of the upper airways: a systematic review of observational studies and meta-analysis". *Eur Arch Otorhinolaryngol.* 2017 Jan;274(1):585. doi: 10.1007/s00405-016-4118-y. Epub 2016 Jun 3. PubMed PMID: 27260165.

180: Ranga R, Rai S, Kumari A, Mathur S, Kriplani A, Mahey R, Agarwal N, Kachhawa G, Vanamail P, Bhatla N. A Comparison of the Strength of Association of Reid Colposcopic Index and Swede Score With Cervical Histology. *J Low Genit Tract Dis.* 2017 Jan;21(1):55-58. doi: 10.1097/LGT.0000000000000278. PubMed PMID: 27851696.

OBJECTIVE: Colposcopic scoring systems provide an objective diagnosis and select patients who require treatment. A new scoring system, Swede score, has added lesion size as a parameter. This study aimed to compare the strength of association of Reid colposcopic index versus Swede score and assess their utility in low-resource settings.

METHODS: In this prospective study, 150 women aged 30 to 59 years with abnormal screening result were enrolled. All women underwent colposcopy; the findings were scored by both Reid colposcopic index and Swede score, biopsy taken from all abnormal areas. Performances of both the scores were calculated.

RESULTS: A total of 33 (22%) CIN 2+ lesions were detected. Reid colposcopic index at a cutoff of 5 had sensitivity, specificity, positive predictive value, and negative predictive value for detecting CIN2+ lesions of 96.97%, 95.35%, 88.89%, and 98.8%, respectively. Using Swede score at a cutoff of 8, sensitivity, specificity, positive predictive value, and negative predictive value were 42.42%, 100%, 100%, and 81.9%, and with a cutoff of 5, these were 100%, 88.37%, 76.74%, and 100%, respectively. The correlation coefficient (R) was 0.919. By Spearman rank correlation coefficient, the strength of correlation between Swede score and RCI was 0.937 ( $p < .001$ ).

CONCLUSIONS: Swede score can be used flexibly depending on the setting. The lower threshold (5) with high sensitivity can be used for screening, whereas the higher threshold (8) with high specificity can be used for screen-and-treat selection to decrease the overtreatment rate. Thus, it is a more attractive option for cancer prevention programs in low-resource settings.

DOI: 10.1097/LGT.0000000000000278  
PMID: 27851696 [Indexed for MEDLINE]

181: Rangarajan K, Chinna S, Nair N, Das CJ. Peril of missing a double gall bladder: report of a patient who needed cholecystectomy two times over. *BMJ Case Rep.* 2017 Jan 27;2017. pii: bcr2016218248. doi: 10.1136/bcr-2016-218248. PubMed PMID: 28130286.

Gall bladder (GB) duplication is a rare anomaly, not often seen in regular

clinical practice. Though a vestigial organ, the presence of calculi within the GB can cause the patient to be acutely symptomatic with right hypochondriac pain, which can even be life threatening if not treated. The presence of two GBs means this pathology can be seen in both the GBs, highlighting the importance of diagnosing this condition, lest the patient returns years after a cholecystectomy with cholecystitis yet again!

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PMID: 28130286 [Indexed for MEDLINE]

Conflict of interest statement: Conflicts of Interest: None declared.

182: Rani L, Mathur N, Gupta R, Gogia A, Kaur G, Dhanjal JK, Sundar D, Kumar L, Sharma A. Genome-wide DNA methylation profiling integrated with gene expression profiling identifies PAX9 as a novel prognostic marker in chronic lymphocytic leukemia. *Clin Epigenetics*. 2017 May 30;9:57. doi: 10.1186/s13148-017-0356-0. eCollection 2017. PubMed PMID: 28572861; PubMed Central PMCID: PMC5450117.

**BACKGROUND:** In chronic lymphocytic leukemia (CLL), epigenomic and genomic studies have expanded the existing knowledge about the disease biology and led to the identification of potential biomarkers relevant for implementation of personalized medicine. In this study, an attempt has been made to examine and integrate the global DNA methylation changes with gene expression profile and their impact on clinical outcome in early stage CLL patients.

**RESULTS:** The integration of DNA methylation profile (n=14) with the gene expression profile (n=21) revealed 142 genes as hypermethylated-downregulated and; 62 genes as hypomethylated-upregulated in early stage CLL patients compared to CD19+ B-cells from healthy individuals. The mRNA expression levels of 17 genes identified to be differentially methylated and/or differentially expressed was further examined in early stage CLL patients (n=93) by quantitative real time PCR (RQ-PCR). Significant differences were observed in the mRNA expression of MEIS1, PMEPA1, SOX7, SPRY1, CDK6, TBX2, and SPRY2 genes in CLL cells as compared to B-cells from healthy individuals. The analysis in the IGHV mutation based categories (Unmutated=39, Mutated=54) revealed significantly higher mRNA expression of CRY1 and PAX9 genes in the IGHV unmutated subgroup (p<0.001). The relative risk of treatment initiation was significantly higher among patients with high expression of CRY1 (RR=1.91, p=0.005) or PAX9 (RR=1.87, p=0.001). High expression of CRY1 (HR: 3.53, p<0.001) or PAX9 (HR: 3.14, p<0.001) gene was significantly associated with shorter time to first treatment. The high expression of PAX9 gene (HR: 3.29, 95% CI 1.172-9.272, p=0.016) was also predictive of shorter overall survival in CLL.

**CONCLUSIONS:** The DNA methylation changes associated with mRNA expression of CRY1 and PAX9 genes allow risk stratification of early stage CLL patients. This comprehensive analysis supports the concept that the epigenetic changes along with the altered expression of genes have the potential to predict clinical outcome in early stage CLL patients.

DOI: 10.1186/s13148-017-0356-0

PMCID: PMC5450117

PMID: 28572861

183: Ranjha R, Meena NK, Singh A, Ahuja V, Paul J. Association of miR-196a-2 and miR-499 variants with ulcerative colitis and their correlation with expression of respective miRNAs. *PLoS One*. 2017 Mar 16;12(3):e0173447. doi: 10.1371/journal.pone.0173447. eCollection 2017. PubMed PMID: 28301487; PubMed Central PMCID: PMC5354276.

**BACKGROUND AND AIM:** MicroRNAs are small non-coding RNAs that play an important role in regulating the gene expression of their target genes. SNP miR-196a-2 rs11614913 and miR-499 rs3746444 are reported to have association with the risk

and prognosis of multiple-types of inflammatory diseases including IBD. This study was conducted to show if any association of SNP miR-196a-2rs11614913 and miR-499 rs3746444 exists with ulcerative colitis (UC) patients of north Indian population and how these polymorphisms modulate the expression profile of the respective miRNAs.

**METHODS:** A total of 638 participants including 197 UC patients and 441 controls were included in this study. Polymorphisms were genotyped by PCR-RFLP and the miRNA expression was measured using qRT-PCR. Genotypes and allele frequencies were calculated using SPSS 16 software.

**RESULTS:** MiR-196a-2 rs11614913 (C>T) and miR-499 rs3746444 (T>C) were found to be associated with UC. TT genotype of miR-196a-2 rs11614913 ( $p = 0.03$ ) was negatively associated with UC whereas the heterozygous TC genotype of miR-499 rs3746444 ( $p = 0.003$ ) was showing positive association with UC. Patients having a combination of both SNPs, developed disease at older age and they suffered from severe disease extent. Genotype that showed association with the disease also showed correlation with the changes in miRNA expression.

**CONCLUSION:** In this study we found miR-196a-2 rs11614913 and miR-499 rs3746444 were associated with UC in north Indian population. We found the genotype that showed association with UC also altered the expression of respective miRNA in the patient harboring the genotype. There was correlation between associated genotype and altered miRNA expression.

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PMCID: PMC5354276

PMID: 28301487

184: Rao R. The journey of opioid substitution therapy in India: Achievements and challenges. *Indian J Psychiatry*. 2017 Jan-Mar;59(1):39-45. doi: 10.4103/psychiatry.IndianJPsychiatry\_37\_17. PubMed PMID: 28529359; PubMed Central PMCID: PMC5419011.

Opioids are one of the most problematic illegal substances globally. Opioid abuse is associated with complications in various spheres of the user's life, his/her family, and the society. Injecting drug use (IDU) is also linked to public health problems such as HIV infection and viral hepatitis. Medications form an important cornerstone in the treatment of opioid dependence. Treatment strategies such as "detoxification" alone or long-term treatment with opioid antagonist have limited acceptability and retention rates. Opioid substitution therapy (OST) has demonstrated better retention rates than other existing treatment strategies and helps improve the individual's functioning as well as his/her quality of life. The use of OST in India spans three decades, with initial use of low-dose buprenorphine followed by higher strength buprenorphine and buprenorphine-naloxone. Other medications such as slow-release oral morphine, and recently, methadone have also been introduced. Indian research also confirms the findings from Western literature on the effectiveness as well as acceptability of this treatment modality. OST received its biggest thrust when it became a part of the National AIDS Control Programme. In recent years, the number of OST centers in India has increased manifold. Practice guidelines, standard operating procedures, and capacity-building mechanisms have been put in place for effective OST implementation. Despite such widespread use, many challenges exist for OST implementation. The targets for ensuring adequate coverage of the population with this treatment are still far away. There is concern of OST being branded as a "harm reduction" intervention reserved only for injecting drug users. Despite three decades of advancements, certain sections of policymakers and practitioners still have reservations with this treatment modality. There is a need to overcome these barriers for OST to become easily accessible to those who need it.

DOI: 10.4103/psychiatry.IndianJPsychiatry\_37\_17

PMCID: PMC5419011

PMID: 28529359

Conflict of interest statement: There are no conflicts of interest.

185: Rastogi S, Gupta V. Eribulin Approval in Advanced Liposarcoma - Successful Drug or a Weaker Methodology? *Indian J Med Paediatr Oncol*. 2017 Jan-Mar;38(1):2-3. doi: 10.4103/0971-5851.203492. PubMed PMID: 28469328; PubMed Central PMCID: PMC5398101.

186: Rathore S, Dass S, Kandari D, Kaur I, Gupta M, Sharma YD. Basigin Interacts with *Plasmodium vivax* Tryptophan-rich Antigen PvTRAg38 as a Second Erythrocyte Receptor to Promote Parasite Growth. *J Biol Chem*. 2017 Jan 13;292(2):462-476. doi: 10.1074/jbc.M116.744367. Epub 2016 Nov 23. PubMed PMID: 27881677; PubMed Central PMCID: PMC5241724.

Elucidating the molecular mechanisms of the host-parasite interaction during red cell invasion by *Plasmodium* is important for developing newer antimalarial therapeutics. Recently, we have characterized a *Plasmodium vivax* tryptophan-rich antigen PvTRAg38, which is expressed by its merozoites, binds to host erythrocytes, and interferes with parasite growth. Interaction of this parasite ligand with the host erythrocyte occurs through its two regions present at amino acid positions 167-178 (P2) and 197-208 (P4). Each region recognizes its own erythrocyte receptor. Previously, we identified band 3 as the chymotrypsin-sensitive erythrocyte receptor for the P4 region, but the other receptor, binding to P2 region, remained unknown. Here, we have identified basigin as the second erythrocyte receptor for PvTRAg38, which is resistant to chymotrypsin. The specificity of interaction between PvTRAg38 and basigin was confirmed by direct interaction where basigin was specifically recognized by P2 and not by the P4 region of this parasite ligand. Interaction between P2 and basigin is stabilized through multiple amino acid residues, but Gly-171 and Leu-175 of P2 were more critical. These two amino acids were also critical for parasite growth. Synthetic peptides P2 and P4 of PvTRAg38 interfered with the parasite growth independently but had an additive effect if combined together indicating involvement of both the receptors during red cell invasion. In conclusion, PvTRAg38 binds to two erythrocyte receptors basigin and band 3 through P2 and P4 regions, respectively, to facilitate parasite growth. This advancement in our knowledge on molecular mechanisms of host-parasite interaction can be exploited to develop therapeutics against *P. vivax* malaria.

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PMCID: PMC5241724 [Available on 2018-01-13]

PMID: 27881677 [Indexed for MEDLINE]

187: Rawre J, Juyal D, Dhawan B. Molecular typing of *Chlamydia trachomatis*: An overview. *Indian J Med Microbiol*. 2017 Jan-Mar;35(1):17-26. doi: 10.4103/ijmm.IJMM\_16\_341. Review. PubMed PMID: 28303813.

Urogenital infection due to *Chlamydia trachomatis* (CT) is one of the most common bacterial sexually transmitted infections (STIs) and is a major public health problem worldwide. Molecular characterisation of CT is important for understanding the pathophysiological mechanisms of chlamydial disease and its transmission dynamics in sexual networks. Traditionally, strain typing of CT was based on serotyping methods characterising the major outer membrane protein (MOMP). With the advent of polymerase chain reaction and sequencing the era of molecular typing began. Molecular characterization of CT strains is based on sequence analysis of *ompA* gene encoding MOMP. However, in due course of time, improvements were made to enhance the discriminatory power of sequencing and quality of epidemiological information. New high-resolution genotyping methods using multiple loci such as multilocus sequence typing (MLST) and multiple loci variable number of tandem repeats (MLVA) were developed but were unable to differentiate mixed infections (MIs). The development of DNA-hybridisation methods emerged as a major breakthrough in detecting MIs. Although MLST and MLVA are more discriminative than other genotyping methods, they are laborious and expensive. DNA microarray technique is an affordable alternative for genotyping.

Since recombination is widespread in the CT genome, *ompA* is not a reliable marker for phylogenetic studies; hence, whole genome sequencing may provide maximum phylogenetic resolution of CT strains. A descriptive review is provided of the various molecular CT typing methods. The vital information gained can be used for formulating screening programmes, targeted prevention and optimising therapeutic measures aiming to reduce disease transmission.

DOI: 10.4103/ijmm.IJMM\_16\_341  
PMID: 28303813 [Indexed for MEDLINE]

188: Reddy B V, Kusuma YS, Pandav CS, Goswami AK, Krishnan A. Water and Sanitation Hygiene Practices for Under-Five Children among Households of Sugali Tribe of Chittoor District, Andhra Pradesh, India. *J Environ Public Health*. 2017;2017:7517414. doi: 10.1155/2017/7517414. Epub 2017 May 31. PubMed PMID: 28642797; PubMed Central PMCID: PMC5470013.

**BACKGROUND:** Increased mortality is associated with poor household water, sanitation, and hygiene (WaSH) practices. The objective was to study the WaSH practices for under-five children among households of Sugali Tribe, Chittoor district, Andhra Pradesh, India.

**METHODS:** A community-based cross-sectional study was conducted in four mandals in 2012. A total of 500 households with under-five children were identified. Data was collected from mothers/caregivers. A summary WaSH score was generated from four specific indices, water, sanitation, hygiene, and hand washing practices, and determinants were identified.

**RESULTS:** Of the total households, 69% reported doing nothing at home to make the water safe for drinking. Over 90% of the households reported storing water in a utensil covered with a lid and retrieving water by dipping glass in the vessels. Open defecation was a commonly reported practice (84.8%). About three-fifths of the study's households reported using water and soap for cleaning dirty hands and one-third (37.4%) reported using water and soap after defecation. The median WaSH score was 15. In the hierarchical stepwise multiple linear regression, only socioeconomic variables were significantly associated with WaSH score.

**CONCLUSION:** WaSH related practices were generally poor in people of the Sugali Tribe in Andhra Pradesh, India.

DOI: 10.1155/2017/7517414  
PMCID: PMC5470013  
PMID: 28642797

189: Roy M, Kumar S, Bhatla N, Ray MD, Kumar L, Jain D, Phulware R, Mathur SR. Androgen Receptor Expression in Endometrial Stromal Sarcoma: Correlation With Clinicopathologic Features. *Int J Gynecol Pathol*. 2017 Jan 20. doi: 10.1097/PGP.0000000000000353. [Epub ahead of print] PubMed PMID: 28114189.

Endometrial stromal sarcoma (ESS) is a rare neoplasm comprising only 0.2% to 1% of all uterine malignancies and afflicts women between 42 and 59 yr of age. ESSs frequently express estrogen receptor (ER) and progesterone receptor (PR). However, the published literature contains scant data on the expression and therapeutic/prognostic role of androgen receptor (AR) in ESSs. We undertook this study to characterize the expression of AR along with ER and PR in ESSs and correlate it with clinicopathologic features. The clinical details, slides, and blocks of 25 tumors from 24 patients (September 2010 to February 2016) were retrieved. The diagnosis and grade of ESS were reviewed and immunohistochemistry performed with anti-ER, PR, and AR antibodies. Ages ranged from 18 to 50 yr, with a mean age of 36 yr. Low-grade ESS (LGESS) and high-grade ESS (HGESS) were diagnosed in 15 and 9 patients, respectively. An 18-yr-old woman who initially had LGESS suffered pelvic recurrence; the recurrent tumor exhibited high-grade morphology. Our patients, especially those with HGESS, were much younger compared with published worldwide data. ER, PR, and AR immunoreactivity was observed in 14 (93.3%), 12 (80%), and 11 (73.3%) LGESSs, respectively. This is in contrast to HGESSs, in which 5 (50%) tumors had a triple-negative hormonal profile. AR, like



ER and PR, was more frequently expressed in LGESS as compared with HGESS. Whether AR, in addition to ER and PR receptor status, may help guide adjuvant hormonal therapy needs further elucidation.

DOI: 10.1097/PGP.0000000000000353

PMID: 28114189

190: Rufai SB, Singh S, Singh A, Kumar P, Singh J, Vishal A. Performance of Xpert MTB/RIF on Ascitic Fluid Samples for Detection of Abdominal Tuberculosis. *J Lab Physicians*. 2017 Jan-Mar;9(1):47-52. doi: 10.4103/0974-2727.187927. PubMed PMID: 28042217; PubMed Central PMCID: PMC5015498.

**BACKGROUND:** Diagnosis of abdominal tuberculosis (TB) from ascitic fluid samples using routinely available diagnostic methods is challenging due to its paucibacillary nature. Although performance of Xpert MTB/RIF assay has been evaluated extensively on pulmonary samples, its performance on extrapulmonary samples is still under evaluation.

**OBJECTIVES:** The objective of this study was to find out the performance of Xpert MTB/RIF on ascitic fluid samples obtained from suspected cases of abdominal TB. Performance was compared with Mycobacterium growth indicator tube-960 (MGIT-960) culture and in-house multiplex polymerase chain reaction (PCR). The latter detects and differentiates Mycobacterium tuberculosis and nontuberculous mycobacteria simultaneously.

**MATERIALS AND METHODS:** Sixty-seven patients suspected of probable/possible abdominal TB were included in this observational, prospective study. All samples were tested by Ziehl-Neelsen staining, MGIT-960 culture, in-house multiplex PCR, and Xpert MTB/RIF assay.

**RESULTS:** All 67 samples were smear negative. Seventeen (25.4%) were MGIT-960 culture positive while 12 (17.9%) were detected positive by the Xpert MTB/RIF assay and 9 (13.4%) by in-house multiplex PCR. Sensitivity and specificity of the Xpert MTB/RIF assay compared with the MGIT-960 culture were 70.6% (95% confidence interval [CI]: 44.1-89.7) and 100% (95% CI: 92.8-100) and that of in-house multiplex PCR were 52.9% (95% CI: 30.9-73.8) and 100% (95% CI: 92.8-100), respectively.

**CONCLUSIONS:** Diagnostic yield of Xpert MTB/RIF assay on ascitic fluid samples was lower than MGIT-960 culture. We thus emphasize on the need for urgent discovery of new biomarkers for paucibacillary TB.

DOI: 10.4103/0974-2727.187927

PMCID: PMC5015498

PMID: 28042217

191: Sable M, Kakkar A, Garg K, Suri V. Sinonasal Teratocarcinoma: An Underdiagnosed Entity Posing Diagnostic Challenges. *Turk Neurosurg*. 2017;27(3):468-471. doi: 10.5137/1019-5149.JTN.13092-14.1. PubMed PMID: 27438614.

Sinonasal teratocarcinoma (SNTCS) is a rare malignancy of the nasal cavity and paranasal sinuses. Histologically, this tumor consists of mature and immature components of epithelial, mesenchymal and neuroectodermal origin, which may be present in varying proportions. This morphological heterogeneity often leads to misdiagnosis, particularly in biopsies. These patients have dismal prognosis, with frequent recurrences and short mean survival periods. Due to its rarity, clinical characteristics and optimal therapy are not well-characterized. We report a case of SNTCS with intracranial extension, which was treated with surgical resection, followed by radiotherapy. Knowledge of this entity is necessary for accurate diagnosis and proper management.

DOI: 10.5137/1019-5149.JTN.13092-14.1

PMID: 27438614

192: Sagar R, Pattanayak RD, Chandrasekaran R, Chaudhury PK, Deswal BS, Lenin Singh RK, Malhotra S, Nizamie SH, Panchal BN, Sudhakar TP, Trivedi JK, Varghese M, Prasad J, Chatterji S. Twelve-month prevalence and treatment gap for common

mental disorders: Findings from a large-scale epidemiological survey in India. *Indian J Psychiatry*. 2017 Jan-Mar;59(1):46-55. doi: 10.4103/psychiatry.IndianJPsychiatry\_333\_16. PubMed PMID: 28529360; PubMed Central PMCID: PMC5419012.

**BACKGROUND:** Common mental disorders, such as mood, anxiety, and substance use disorders, are significant contributors to disability globally, including India. Available research is, however, limited by methodological issues and heterogeneities.

**AIM:** The present paper focuses on the 12-month prevalence and 12-month treatment for anxiety, mood, and substance use disorders in India.

**MATERIALS AND METHODS:** As part of the World Health Organization World Mental Health (WMH) Survey Initiative, in India, the study was conducted at eleven sites. However, the current study focuses on the household sample of 24,371 adults ( $\geq 18$  years) of eight districts of different states, covering rural and urban areas. Respondents were interviewed face-to-face using the WMH Composite International Diagnostic Interview after translation and country-specific adaptations. Diagnoses were generated as per the International Classification of Diseases, 10(th) edition, Diagnostic Criteria for Research.

**RESULTS:** Nearly 49.3% of the sample included males. The 12-month prevalence of common mental disorders was 5.52% - anxiety disorders (3.41%), mood disorders (1.44%), and substance use disorders (1.18%). Females had a relatively higher prevalence of anxiety and mood disorders, and lower prevalence of substance use disorders than males. The 12-month treatment for people with common mental disorders was 5.09% (range 1.66%-11.55% for individual disorders). The survey revealed a huge treatment gap of 95%, with only 5 out of 100 individuals with common mental disorders receiving any treatment over the past year.

**CONCLUSION:** The survey provides valuable data to understand the mental health needs and treatment gaps in the Indian population. Despite the 12-month prevalence study being restricted to selected mental disorders, these estimates are likely to be conservative due to under-reporting or inadequate detection due to cultural factors.

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PMCID: PMC5419012

PMID: 28529360

Conflict of interest statement: There are no conflicts of interest.

193: Sahoo MK, Mukherjee A, Girish, Parida K, Agarwal KK, Bal C, Tripathi M, Das CJ, Shamim SA. Pleuroperitoneal Mesothelioma: A Rare Entity on 18F-FDG PET/CT. *Indian J Nucl Med*. 2017 Jan-Mar;32(1):75-76. doi: 10.4103/0972-3919.198499. PubMed PMID: 28242997; PubMed Central PMCID: PMC5317083.

Pleuroperitoneal mesothelioma is an extremely rare entity. Only few cases are reported worldwide. We hereby represent a case of pleural mesothelioma referred for F-18-Fluorodeoxyglucose positron emission tomography/computed tomography for response evaluation. Diffuse F-18-Fluorodeoxyglucose avid peritoneal and omental thickening noted which subsequently turned out to be mesothelial involvement on peritoneal biopsy. This case demonstrates the role of F-18-Fluorodeoxyglucose positron emission tomography/computed tomography in detecting other sites of involvement in case of malignant mesothelioma.

DOI: 10.4103/0972-3919.198499

PMCID: PMC5317083

PMID: 28242997

Conflict of interest statement: There are no conflicts of interest.

194: Sahu MK, Alam I, Singh SP, Menon R, Talwar S. Isolated facial nerve palsy after arterial switch operation: A rarity. *Ann Pediatr Cardiol*. 2017 Jan-Apr;10(1):92-93. doi: 10.4103/0974-2069.197057. PubMed PMID: 28163440; PubMed

195: Saini M, Vanathi M, Dada T, Agarwal T, Dhiman R, Khokhar S. Ocular surface evaluation in eyes with chronic glaucoma on long term topical antiglaucoma therapy. *Int J Ophthalmol*. 2017 Jun 18;10(6):931-938. doi: 10.18240/ijo.2017.06.16. eCollection 2017. PubMed PMID: 28730085; PubMed Central PMCID: PMC5515143.

**AIM:** To evaluate ocular surface changes and its correlation with the central corneal subbasal nerve fibre layer in chronic glaucoma patients.  
**METHODS:** A prospective comparative study of ocular surface evaluation was performed in 50 eyes of 25 patients using two or more antiglaucoma medications for at least 6mo and 50 eyes of 25 normal subjects without any ocular problems as controls. The study parameters evaluated included visual acuity, intraocular pressure, ocular surface evaluation parameters [fluorescein break-up time (FTBUT), Schirmer's I test, ocular surface staining scores and ocular surface disease index score (OSDI)], central corneal sensation (Cochet Bonnett aesthesiometer), central subbasal nerve fiber layer density (SBNFLD) by confocal microscopy.  
**RESULTS:** The mean values in the glaucoma cases and control groups respectively were as follows: OSDI score (35.89±16.07/6.02±3.84; P=0.001), Schirmer's I test score (7.63±2.64 mm/12.86±1.93 mm; P=0.001), FTBUT (9.44±2.76s/11.8±1.88s; P=0.001), corneal (5.7±2.33/ 1.1±0.58; P=0.001) and conjunctival staining score (5.06±1.94/0.84±0.46; P=0.001), corneal sensitivity (4.68±0.44/5.07±0.37; P=0.076), mean subbasal nerve fiber number (3.58±0.99/5.40±1.70; P=0.001), SBNFL length (1101.44±287.56 µm/1963.70±562.56 µm; P=0.001) and density (6883.94±1798.03 µm/mm(2)/12 273.15±3516.04 µm/mm(2); P=0.001). Dry eye severity of level 2 and 3 was seen in 66% of glaucoma group. Corneal (R(2)=0.86) and conjunctival staining (R(2)=0.71) and OSDI score (R(2)=0.67) showed statistically significant negative correlation with central corneal SBNFLD while FTBUT (R(2)=0.84), corneal sensitivity (R(2)=0.52) showed positive correlation to central corneal SBNFLD in the long term topical antiglaucoma medication group.  
**CONCLUSION:** Ocular surface changes and antiglaucoma therapy induced dry eye is found to be associated with decreased SBNFLD in eyes on long term topical antiglaucoma medications.

DOI: 10.18240/ijo.2017.06.16

PMCID: PMC5515143

PMID: 28730085

196: Sakthivel P, Yogal R, Verma H, Saini A, Chandran A. Acute Retropharyngeal Abscess Masquerading as Meningitis. *JNMA J Nepal Med Assoc*. 2017 Jan-Mar;56(205):186-188. PubMed PMID: 28598461.

Retropharyngeal abscess is a potentially serious deep neck space infection occurring more frequently in children than in adults. The clinical picture of RPA is highly variable with paucity of physical findings. Prompt diagnosis of RPA especially in infants is mandatory to prevent potential fatal complications including airway obstruction. The diagnosis of RPA should be based on high index of clinical suspicion with supportive imaging studies like lateral X-ray of neck and CT. We present a case of acute retropharyngeal abscess which was initially misdiagnosed as meningitis and led to airway obstruction. This case is reported to create awareness among emergency physicians, paediatricians and otolaryngologists to have high index of suspicion in diagnosing RPA especially in infants.

PMID: 28598461

197: Sankar J, Ismail J, Das R, Dev N, Chitkara A, Sankar MJ. Effect of Severe Vitamin D Deficiency at Admission on Shock Reversal in Children With Septic Shock. *J Intensive Care Med*. 2017 Jan 1:885066617699802. doi: 10.1177/0885066617699802. [Epub ahead of print] PubMed PMID: 28335672.

**OBJECTIVES:** To evaluate the association of severe vitamin D deficiency with clinically important outcomes in children with septic shock.

**METHODS:** We enrolled children  $\leq 17$  years with septic shock prospectively over a period of 6 months. We estimated 25-hydroxyvitamin D [25 (OH) D] levels at admission and 72 hours. Severe deficiency was defined as serum 25 (OH)  $< 10$  ng/mL. We performed univariate and multivariate analysis to evaluate association with clinically important outcomes.

**RESULTS:** Forty-three children were enrolled in the study. The prevalence of severe vitamin D deficiency was 72% and 69% at admission and 72 hours, respectively. On univariate analysis, severe vitamin D deficiency at admission was associated with lower rates of shock reversal, 74% (23) versus 25% (3); relative risk (95% confidence interval [CI]): 2.9 (1.09-8.08), at 24 hours and greater need for fluid boluses (75 vs 59 mL/kg). On multivariate analysis, nonresolution of shock at 24 hours was significantly associated with severe vitamin D deficiency after adjusting for other key baseline and clinical variables, adjusted odds ratio (95% CI): 12 (2.01-87.01); 0.01.

**CONCLUSION:** The prevalence of severe vitamin D deficiency is high in children with septic shock admitted to pediatric intensive care unit. Severe vitamin D deficiency at admission seems to be associated with lower rates of shock reversal at 24 hours of ICU stay. Our study provides preliminary data for planning interventional studies in children with septic shock and severe vitamin D deficiency.

DOI: 10.1177/0885066617699802  
PMID: 28335672

198: Saraswat M, Joenväärä S, Jain T, Tomar AK, Sinha A, Singh S, Yadav S, Renkonen R. Human Spermatozoa Quantitative Proteomic Signature Classifies Normo- and Asthenozoospermia. *Mol Cell Proteomics*. 2017 Jan;16(1):57-72. doi: 10.1074/mcp.M116.061028. Epub 2016 Nov 28. PubMed PMID: 27895139; PubMed Central PMCID: PMC5217782.

Scarcely understood defects lead to asthenozoospermia, which results in poor fertility outcomes. Incomplete knowledge of these defects hinders the development of new therapies and reliance on interventional therapies, such as in vitro fertilization, increases. Sperm cells, being transcriptionally and translationally silent, necessitate the proteomic approach to study the sperm function. We have performed a differential proteomics analysis of human sperm and seminal plasma and identified and quantified 667 proteins in sperm and 429 proteins in seminal plasma data set, which were used for further analysis. Statistical and mathematical analysis combined with pathway analysis and self-organizing maps clustering and correlation was performed on the data set. It was found that sperm proteomic signature combined with statistical analysis as opposed to the seminal plasma proteomic signature can differentiate the normozoospermic versus the asthenozoospermic sperm samples. This is despite the results that some of the seminal plasma proteins have big fold changes among classes but they fall short of statistical significance. S-Plot of the sperm proteomic data set generated some high confidence targets, which might be implicated in sperm motility pathways. These proteins also had the area under the curve value of 0.9 or 1 in ROC curve analysis. Various pathways were either enriched in these proteomic data sets by pathway analysis or they were searched by their constituent proteins. Some of these pathways were axoneme activation and focal adhesion assembly, glycolysis, gluconeogenesis, cellular response to stress and nucleosome assembly among others. The mass spectrometric data is available via ProteomeXchange with identifier PXD004098.

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PMCID: PMC5217782 [Available on 2018-01-01]  
PMID: 27895139 [Indexed for MEDLINE]

199: Sarkar S, Sinha A, Lakshmy R, Agarwala A, Saxena A, Hari P, Bagga A. Ambulatory Blood Pressure Monitoring in Frequently Relapsing Nephrotic Syndrome. *Indian J Pediatr.* 2017 Jan;84(1):31-35. doi: 10.1007/s12098-016-2207-y. Epub 2016 Aug 19. PubMed PMID: 27538980.

**OBJECTIVES:** To screen patients with frequently relapsing nephrotic syndrome (FRNS) for the presence of ambulatory hypertension and left ventricular hypertrophy.

**METHODS:** Following ethical and parental approvals, consecutive patients with FRNS of  $\geq 2$  y duration were enrolled. Those with estimated glomerular filtration rate  $< 60$  ml/min/1.73 m<sup>2</sup> and known familial hypercholesterolemia or diabetes mellitus were excluded. Clinic blood pressure was measured by oscillometry and 24-h ambulatory blood pressure was recorded by Spacelab 90207; echocardiography was done for left ventricular mass. Ambulatory hypertension was defined as the presence of clinic blood pressure  $> 95$ th centile for age, sex and height, and systolic blood pressure load exceeding 25 %.

**RESULTS:** Of 99 patients, 73 were boys; their median (IQR) age was 120 (84-156) mo. Clinic blood pressure was  $> 95$ th percentile in 63 (63.6 %) patients. Ambulatory hypertension was present in 33 (33.3 %), including 14 patients with severe hypertension; 16 (16.1 %) had masked hypertension and 30 (30.3 %) had white coat hypertension. Non-dipping was seen in 72 and 55 patients had high nocturnal systolic blood pressure load. Of 21 patients with increased left ventricular mass index, 9 (42.9 %) had ambulatory hypertension, 3 (14.3 %) had masked hypertension and 6 (28.6 %) patients had white coat hypertension. Compared to those with normal blood pressure, patients with ambulatory hypertension were younger at onset of nephrotic syndrome (odds ratio, OR 0.94; 95 % CI 0.91-0.98;  $P = 0.002$ ), longer duration of frequently relapsing disease (OR 1.05; 95 % CI 1.00-1.10;  $P = 0.034$ ) and higher body mass index (BMI) (OR 1.61; 95 % CI 1.07-4.40;  $P = 0.020$ ). BMI was positively correlated with 24-h systolic blood pressure load ( $r = 0.23$ ;  $P = 0.002$ ) and with the left ventricular mass index ( $r = 0.57$ ;  $P = 0.001$ ).

**CONCLUSIONS:** Many patients with FRNS showed high prevalence of clinic, ambulatory and white coat hypertension, emphasizing the need to carefully screen these patients in order to ensure their appropriate management. While clinic blood pressure monitoring detects most patients with hypertension, it misses a significant proportion with masked hypertension, underscoring the need for ambulatory blood pressure monitoring and screening for end organ damage. High BMI was the chief risk factor for hypertension, suggesting that control of overweight and hypertension might improve cardiovascular outcomes.

DOI: 10.1007/s12098-016-2207-y  
PMID: 27538980

200: Satyarthee GD, Kumar A. Klippel-Feil Syndrome Associated with Sacral Agenesis, Low Lying Cord, Lipomyelomeningocele and Split Cord Malformation Presenting with Tethered Cord Syndrome: Pentads Neural Tube Defects Spread along Whole Spinal Axis. *J Pediatr Neurosci.* 2017 Jan-Mar;12(1):51-54. doi: 10.4103/1817-1745.205651. PubMed PMID: 28553382; PubMed Central PMCID: PMC5437790.

Neural tube defects are congenital development anomaly of the central nervous system and usually have relatively more predilection to affect at anterior and posterior neuropore embryological development sites, so usually one or two defects are commonly encountered. However, occurrence of simultaneous multiple neural tube defects is very rare, presence of constellation of five neural defects is extremely rare, and all defects add up together to produce gross neurological deficit. We present an interesting case of a 23-year-old male who presented with history of lower backache and noticed wasting and weakness of lower limbs associated with difficulty in walking for the last 2 years but had no associated sphincter disturbances. He was operated for lumbosacral lipomeningocele repair at the age of 1 year. He was asymptomatic, following the first surgical intervention. At the current admission, he underwent re-exploration of surgical wound with surgical repair although suffered

mild-temporary neurological worsening in the immediate postoperative period. Imaging feature and management of such rare constellation of five embryological anomalies and its significance and brief literature are discussed.

DOI: 10.4103/1817-1745.205651  
PMCID: PMC5437790  
PMID: 28553382

Conflict of interest statement: There are no conflicts of interest.

201: Sawarkar D, Satyarthee GD, Singh P, Gurjar H, Singh MM, Sharma BS. Developing Cerebral Venous infarct presenting with seizure occurring after lumbar drain placement following Trans-sphenoidal Surgery of Cushing's disease: Review of literature. *J Neurosci Rural Pract.* 2017 Jan-Mar;8(1):148-150. doi: 10.4103/0976-3147.193567. PubMed PMID: 28149109; PubMed Central PMCID: PMC5225708.

202: Sawhney C, Lalwani S, Ray BR, Sinha S, Kumar A. Benefits and Pitfalls of Cadavers as Learning Tool for Ultrasound-guided Regional Anesthesia. *Anesth Essays Res.* 2017 Jan-Mar;11(1):3-6. doi: 10.4103/0259-1162.186607. Review. PubMed PMID: 28298747; PubMed Central PMCID: PMC5341665.

Ultrasound-guided regional anesthesia (UGRA), like other basic skills, should be learnt in a simulation laboratory before performing on the patient. Cadavers provide an ideal tool for learning sonoanatomy and skills required for performing UGRA. On the basis of preservation technique used, the cadavers can be formalin embalmed cadavers, Thiel cadavers (soft cadavers), and fresh frozen cadavers. We compared three types of cadavers for performing ultrasound-guided upper and lower limb blocks. We observed that fresh frozen and Thiel cadavers were less smelling and had more realistic appearance as compared to formalin embalmed cadavers. It was seen that Thiel cadavers were more flexible and hence, rotation of neck, shoulder and knee was easier. Although images seen in most cadavers were comparable with live subjects but, Thiel cadavers provided more realistic model.

DOI: 10.4103/0259-1162.186607  
PMCID: PMC5341665  
PMID: 28298747

Conflict of interest statement: There are no conflicts of interest.

203: Seth A. Management of IVC Thrombus-Surgical Strategies and Outcomes. *Indian J Surg Oncol.* 2017 Jun;8(2):156-159. doi: 10.1007/s13193-016-0583-4. Epub 2017 Jan 25. Review. PubMed PMID: 28546711; PubMed Central PMCID: PMC5427028.

Renal cell carcinoma is the most lethal among all urological cancers. The lethality increases with advancing stages of the disease. Renal tumors show a peculiar propensity to invade the venous system. Such invasion not only worsens the disease prognosis but also increases the surgical morbidity making treatment of such tumors challenging. Several small volume series have been published regarding management and outcomes of renal tumors with inferior vena cava (IVC) thrombus which show encouraging results when addressed properly. In this article, we review the outcomes and also describe the step-by-step approach to management of these tumors.

DOI: 10.1007/s13193-016-0583-4  
PMCID: PMC5427028 [Available on 2018-06-01]  
PMID: 28546711

204: Sethuraman G, Bhari N, Salotra P, Ramesh V. Indian erythrodermic postkala-azar dermal leishmaniasis. *BMJ Case Rep.* 2017 Jan 27;2017. pii: bcr2016217926. doi: 10.1136/bcr-2016-217926. PubMed PMID: 28130283.

Postkala-azar dermal leishmaniasis (PKDL) is a complication of kala-azar or visceral leishmaniasis and is caused by *Leishmania donovani*. We describe an Indian male patient with the rarer erythrodermic form of PKDL and multiple unusual skin lesions viz. verrucous, annular and mucosal ulceration.

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PMID: 28130283 [Indexed for MEDLINE]

Conflict of interest statement: Conflicts of Interest: None declared.

205: Shahzad N, Khan W, Md S, Ali A, Saluja SS, Sharma S, Al-Allaf FA, Abduljaleel Z, Ibrahim IAA, Abdel-Wahab AF, Afify MA, Al-Ghamdi SS. Phytosterols as a natural anticancer agent: Current status and future perspective. *Biomed Pharmacother.* 2017 Apr;88:786-794. doi: 10.1016/j.biopha.2017.01.068. Epub 2017 Jan 31. Review. PubMed PMID: 28157655.

Phytosterols are naturally occurring compounds in plants, structurally similar to cholesterol. The human diet is quite abundant in sitosterol and campesterol. Phytosterols are known to have various bioactive properties including reducing intestinal cholesterol absorption which alleviates blood LDL-cholesterol and cardiovascular problems. It is indicated that phytosterol rich diets may reduce cancer risk by 20%. Phytosterols may also affect host systems, enabling antitumor responses by improving immune response recognition of cancer, affecting the hormone dependent endocrine tumor growth, and by sterol biosynthesis modulation. Moreover, phytosterols have also exhibited properties that directly inhibit tumor growth, including reduced cell cycle progression, apoptosis induction, and tumor metastasis inhibition. The objective of this review is to summarize the current knowledge on occurrences, chemistry, pharmacokinetics and potential anticancer properties of phytosterols in vitro and in vivo. In conclusion, anticancer effects of phytosterols have strongly been suggested and support their dietary inclusion to prevent and treat cancers.

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PMID: 28157655 [Indexed for MEDLINE]

206: Shalimar, Midha S, Hasan A, Dhingra R, Garg PK. Long-term pain relief with optimized medical treatment including antioxidants and step-up interventional therapy in patients with chronic pancreatitis. *J Gastroenterol Hepatol.* 2017 Jan;32(1):270-277. doi: 10.1111/jgh.13410. PubMed PMID: 27061119.

**BACKGROUND AND AIM:** Abdominal pain is difficult to treat in patients with chronic pancreatitis (CP). Medical therapy including antioxidants has been shown to relieve pain of CP in the short-term. Our aim was to study the long-term results of optimized medical and interventional therapy for pain relief in patients with CP with a step-up approach.

**METHODS:** All consecutive patients with CP were included prospectively in the study. They were treated medically with a well-balanced diet, pancreatic enzymes, and antioxidants (9000 IU beta-carotene, 0.54g vitamin C, 270 IU vitamin E, 600µg organic selenium, and 2g methionine). Endoscopic therapy and/or surgery were offered if medical therapy failed. Pain relief was the primary outcome measure.

**RESULTS:** A total of 313 patients (mean age 26.16±12.17; 244 males) with CP were included; 288 (92%) patients had abdominal pain. The etiology of CP was idiopathic in 224 (71.6%) and alcohol in 82 (26.2%). At 1-year follow-up, significant pain relief was achieved in 84.7% of patients: 52.1% with medical therapy, 16.7% with endoscopic therapy, 7.6% with surgery, and 8.3% spontaneously. The mean pain score decreased from 6.36±1.92 to 1.62±2.10 (P<0.001). Of the 288 patients, 261, 218, 112, and 51 patients were followed up

for 3, 5, 10, and 15 years, respectively; 54.0%, 57.3%, 60.7%, and 68.8% of them became pain free at those follow-up periods.

CONCLUSION: Significant pain relief is achieved in the majority of patients with optimized medical and interventional treatment.

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PMID: 27061119 [Indexed for MEDLINE]

207: Shalimar, Kedia S, Gunjan D, Sonika U, Mahapatra SJ, Nayak B, Kaur H, Acharya SK. Acute Liver Failure Due to Hepatitis E Virus Infection Is Associated with Better Survival than Other Etiologies in Indian Patients. *Dig Dis Sci.* 2017 Apr;62(4):1058-1066. doi: 10.1007/s10620-017-4461-x. Epub 2017 Jan 27. PubMed PMID: 28130708.

BACKGROUND AND AIM: Hepatitis E virus (HEV) is a global disease and an important cause of acute liver failure (ALF) in the Indian subcontinent. The aim of this study was to assess the differences in the course of HEV-ALF as compared to other etiologies of ALF.

METHODS: We compared the clinical course, complications, and outcomes of HEV-ALF with other etiologies. We assessed the prognostic factors and compared existing prognostic scores in HEV-ALF patients.

RESULTS: One thousand four hundred and sixty-two ALF patients were evaluated between January 1986 and December 2015. HEV was the etiology of ALF in 419 (28.7%) cases, whereas non-A non-E hepatitis, HBV and anti-tuberculosis therapy (ATT) were the etiologies in 527 (36.0%), 128 (8.8%), and 103 (7.0%) cases, respectively. The frequency of cerebral edema in HEV-ALF (41.3%) was lower than that in non-A non-E ALF (52.9%;  $P < 0.001$ ) and HBV-ALF (52.8%;  $P = 0.024$ ). Infection and seizures were significantly less in patients with HEV-ALF compared to non-A non-E and HBV-ALF ( $P = 0.038$  and  $0.022$ , respectively). The survival of HEV-ALF patients was significantly better (55.1%,  $P < 0.001$ ) than patients of other etiologies-including ATT (30.0%), non-A non-E (38.1%) and HBV (35.9%). In HEV-ALF patients, age, female sex, cerebral edema, prothrombin time  $>60$  s, infection, and total bilirubin were observed as independent predictors of outcome on multivariate logistic regression analysis. Model for end-stage liver disease, acute liver failure study group model and King's College Hospital criteria had poor discriminative accuracy for outcome (area under receiver operator characteristic curve 0.63-0.64) in HEV-ALF.

CONCLUSIONS: Hepatitis E virus-associated ALF has a better outcome than ALF of other etiologies.

DOI: 10.1007/s10620-017-4461-x

PMID: 28130708 [Indexed for MEDLINE]

208: Shameer A, Pushker N, Lokdarshi G, Basheerz S, Bajaj MS. Emergent Needle Aspiration of an Orbital Subperiosteal Hematoma. *J Emerg Med.* 2017 Jan;52(1):e9-e12. doi: 10.1016/j.jemermed.2016.07.112. Epub 2016 Sep 28. PubMed PMID: 27687171.

BACKGROUND: Delayed presentation of orbital trauma as an acute subperiosteal hematoma.

CASE REPORT: A 12-year-boy developed sudden painful abaxial proptosis of the left eyeball 15 days after blunt trauma over the forehead. On contrast-enhanced computed tomography, a heterogeneous, hypodense, non-enhancing mass with biconvex contour was seen adjacent to the orbital roof. Direct needle drainage was performed and about 10 mL dark blood was aspirated. Proptosis reduced immediately and resolved completely at 2 weeks follow-up. WHY SHOULD AN EMERGENCY PHYSICIAN BE AWARE OF THIS?: Sudden proptosis with no immediate history of trauma can be alarming for the emergency physician. Familiarity with this clinical entity and early drainage can decrease morbidity.



DOI: 10.1016/j.jemermed.2016.07.112

PMID: 27687171

209: Shamim R, Haldar R, Kaushal A. Ultrasound-guided probe-generated artifacts stimulating ventricular tachycardia: A rare phenomenon. *Saudi J Anaesth.* 2017 Jan-Mar;11(1):93-95. doi: 10.4103/1658-354X.197340. PubMed PMID: 28217063; PubMed Central PMCID: PMC5292863.

Electrocardiographic (ECG) artifacts may arise due to interference, faulty earthing, and current leakages in biomedical equipment which might create clinical dilemmas in the perioperative settings. Piezoelectric signals generated by ultrasonography probe are another uncommon source which might be sensed by the ECG electrodes and produce tracings similar to pathological arrhythmias triggering false alarms and avoidable therapies. Anesthesiologists should be familiar with these uncommon sources which might produce these artifacts and they should be identified swiftly.

DOI: 10.4103/1658-354X.197340

PMCID: PMC5292863

PMID: 28217063

Conflict of interest statement: There are no conflicts of interest.

210: Sharawat IK, Dawman L, Satapathy AK. Primary angiitis of the central nervous system in a 7-month-old infant. *Childs Nerv Syst.* 2017 Feb;33(2):223-225. doi: 10.1007/s00381-017-3339-8. Epub 2017 Jan 12. PubMed PMID: 28083640.

211: Sharma A, Kumar S, Devarajan SLJ, Agarwal H. Rare Post-Tonsillectomy Internal Carotid Artery Pseudoaneurysm: Management by Parent Artery Occlusion Using Detachable Balloons. *Vasc Endovascular Surg.* 2017 Jan 1:1538574417723154. doi: 10.1177/1538574417723154. [Epub ahead of print] PubMed PMID: 28764608.

Iatrogenic cervical internal carotid artery pseudoaneurysm is a rare and potentially lethal complication following tonsillectomy. It can be complicated by thromboembolism, mass effect and eventually may rupture leading to death. Various endovascular treatment options are available for the management of these pseudoaneurysms, including coil embolization, detachable balloon occlusion, or stent graft placement. Parent artery occlusion using detachable balloons can be a therapeutic option in a subset of patients. However, evaluation of cross circulation with preprocedure balloon test occlusion is imperative in such cases.

DOI: 10.1177/1538574417723154

PMID: 28764608

212: Sharma A, Duraisamy S, Jagia P, Gulati GS. Rare Iatrogenic Cardiovascular Embolization Following Dialysis. *Vasc Endovascular Surg.* 2017 Jan;51(1):33-35. doi: 10.1177/1538574416682173. Epub 2016 Dec 14. PubMed PMID: 28100152.

Intracardiac or intrapulmonary dislodgement of dialysis catheter or guidewire coating is extremely rare. When present, it can be potentially lethal as it may get complicated by arrhythmias, myocardial or pulmonary artery rupture, valvular perforation, pulmonary thromboembolism, infarction, and infective endocarditis. Percutaneous removal should be attempted as an initial measure and is usually effective in most of the cases. We report 2 such cases, where in first patient it was the hemodialysis catheter which broke, with a large part migrating into the heart, while in second patient, it was the hydrophilic coating of the guidewire that migrated into the pulmonary arteries. Percutaneous retrieval of these foreign bodies was done successfully in both the cases.

DOI: 10.1177/1538574416682173  
PMID: 28100152 [Indexed for MEDLINE]

213: Sharma N, Agrawal N, Maharana PK, Agarwal T, Vanathi M, Vajpayee RB. Comparison of Hospital Cornea Retrieval and Voluntary Eye Donation Program in Eye Banking. *Eye Contact Lens*. 2017 Jan 4. doi: 10.1097/ICL.0000000000000320. [Epub ahead of print] PubMed PMID: 28060143.

**OBJECTIVES:** Comparison of demographic, clinical, microbiological, and utility profile of the corneas obtained through hospital corneal retrieval program (HCRP) and voluntary eye donation (VED) program.

**METHODS:** Donor corneas retrieved during a 14 months period at National eye bank, India were included in the study. The donor cornea grading was done according to the cornea donor study. The corneal swabs were taken from the donor eyes and were sent for microbiological evaluation. The quality of the donor corneas and their utility was assessed.

**RESULTS:** Out of 1,014 donor corneas collected (700 through HCRP, 314 through VED), 455 were of optical grade (91.2% [415/455] through the HCRP and 8.7% [40/455] through the VED). HCRP had a higher proportion of donors in younger age (81.6% vs. 21%,  $P < 0.0001$ ), clear lens (78.6% vs. 66.2%,  $P < 0.0001$ ), and endothelial cell counts of more than 2,000 cells per squared millimeter (64.9% vs. 28%,  $P < 0.0001$ ). Higher proportions of corneas in HCRP were used for optical indications (Penetrating keratoplasty, 24.5% vs. 13.3%,  $P < 0.0001$  and endothelial keratoplasty, 18.14% vs. 4.14%,  $P < 0.0001$ ). VED had a greater number of corneas found unsuitable for keratoplasty (37.4% vs. 6.4%,  $P < 0.001$ ). Most of the donors in the HCRP belonged to lower socioeconomic status (59.4% vs. 17.9%,  $P < 0.0001$ ). No significant difference was found in the microbial contamination between the two groups.

**CONCLUSIONS:** Most corneas retrieved through HCRP were of optical grade quality and efforts should be focused on HCRP to reduce the demand-supply deficit in cornea transplantation.

DOI: 10.1097/ICL.0000000000000320  
PMID: 28060143

214: Sharma S, Gupta DK. Surgical techniques for esophageal replacement in children. *Pediatr Surg Int*. 2017 May;33(5):527-550. doi: 10.1007/s00383-016-4048-1. Epub 2017 Jan 6. Review. PubMed PMID: 28062891.

**PURPOSE:** Surgical techniques for esophageal replacement (ER) in children include colon interposition, gastric tube, gastric transposition, and jejunal interposition. This review evaluates the merits and demerits of each.

**METHOD:** Surgical techniques, complications, and outcome of ER are reviewed over last seven decades.

**RESULTS:** Colon interposition is the time-tested procedure with minimal and less serious complications. Long-term complications include reflux, halitosis, colonic segment dilatation, and anastomotic stricture, sometimes requiring surgical interventions especially for dilatation and reflux. Gastric tube is technically more risky, and associated with early serious complications like prolonged leak in neck or mediastinum, graft necrosis, and ischemia leading to stricture of the tube. Long-term results are good. Gastric transposition is much simpler, can be performed in emergency and in newborns. It involves a single anastomosis in the neck. Post-operative complications include gastric stasis, bile reflux, restricted growth, and decreased pulmonary functional capacity. Jejunal interposition has not been used extensively due to short mesentery but long-term results are good in expert hands.

**CONCLUSION:** Colon is the most preferred and safest organ for ER. Stomach is a vascular and muscular organ with lower risk of ischemia. Gastric tube is a demanding technique. Jejunum or ileum is alternative for redo cases.

DOI: 10.1007/s00383-016-4048-1  
PMID: 28062891 [Indexed for MEDLINE]

215: Sharma S, Gupta DK. Diversities of H-type anorectal malformation: a systematic review on a rare variant of the Krickenbeck classification. *Pediatr Surg Int*. 2017 Jan;33(1):3-13. doi: 10.1007/s00383-016-3982-2. Epub 2016 Oct 1. Review. PubMed PMID: 27695999.

Congenital H-type fistula is a rare congenital rectourogenital connection with an external anal opening in a normal or ectopic position. A systematic review was done to study the anatomical types of congenital H-type fistula, embryology, clinical presentation, relative gender distribution, associated anomalies, investigative modalities, and recent advances in treatment of these lesions. A PubMed search included H-type anorectal malformation; H-type anorectal malformations; H-type anorectal; and H-type congenital anorectal that gave 9;43;76;26 abstracts, respectively. Relevant studies and cited articles were studied omitting duplicate search. The reported incidence is 0.1-16 % of all anorectal malformation. The H-type anorectal malformation is 2.5-6 times more common in females and usually associated with a normal anus. In males, the anomaly is usually a variant with an ectopic anus or a perineal fistula. Anatomical types include anovestibular; rectovestibular; rectovaginal fistula in females and rectourethral (bulbar, prostatic, bladder neck) and rectovesical fistula in males. Variants identified include H-type fistula with perineal fistula, perineal groove, H-type sinus, H-type canal, and acquired H-type fistula. This review compiles the available literature over last six decades. Various surgical corrective procedures have been described. The high recurrence decreases with a learning curve and experience.

DOI: 10.1007/s00383-016-3982-2  
PMID: 27695999 [Indexed for MEDLINE]

216: Sharma S, Dasgupta S, Suman SK, Kumar U, Chitekela S. Disseminated tuberculosis with Evans syndrome: an uncommon presentation. *Trop Doct*. 2017 Apr;47(2):179-181. doi: 10.1177/0049475516688162. Epub 2017 Jan 24. PubMed PMID: 28118797.

217: Sharma SK, Vashishtha R, Chauhan LS, Sreenivas V, Seth D. Comparison of TST and IGRA in Diagnosis of Latent Tuberculosis Infection in a High TB-Burden Setting. *PLoS One*. 2017 Jan 6;12(1):e0169539. doi: 10.1371/journal.pone.0169539. eCollection 2017. PubMed PMID: 28060926; PubMed Central PMCID: PMC5218498.

**BACKGROUND:** There are currently two tests for diagnosing latent tuberculosis infection (LTBI); TST and IGRA. However, it is still unclear that which one of these tests performs better in high TB-burden settings.

**METHODS:** 1511 household contacts of pulmonary TB patients were enrolled to compare the performance of TST and IGRA for LTBI. At baseline all participant underwent testing for IGRA [QuantiferON-TB® Gold In-tube (QFT-GIT) assay] and TST [2 tuberculin unit (TU), purified protein derivative (PPD), RT23, Statens Serum Institute (SSI), Copenhagen, Denmark]. All the household contacts were followed-up for two years for incident TB cases.

**RESULTS:** Active TB was diagnosed in 76 household contacts at an incidence rate of 2.14 per 1000 person-years. Both, TST [Hazard Ratio (HR): 1.14, 95% confidence interval (CI): 0.72-1.79, p = 0.57], as well as QFT-GIT assay (HR: 1.66, 95% CI: 0.97-2.84, p = 0.06) results at baseline were not significantly associated with subsequent development of active TB among household contacts of pulmonary TB patients.

**CONCLUSION:** Neither TST nor IGRA predicted subsequent development of active TB among household contacts of pulmonary TB patients during follow-up. However, keeping in view the cost, and other logistics, TST remains the most preferred method for LTBI diagnosis in resource-limited, high TB-burden settings.

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PMCID: PMC5218498  
PMID: 28060926

Conflict of interest statement: The authors have declared that no competing interests exist.

218: Sharma TK, Bruno JG, Dhiman A. ABCs of DNA aptamer and related assay development. *Biotechnol Adv.* 2017 Mar - Apr;35(2):275-301. doi: 10.1016/j.biotechadv.2017.01.003. Epub 2017 Jan 18. Review. PubMed PMID: 28108354.

This review is intended to guide the novice in aptamer research and development to understand virtually all of the aptamer development options and currently available assay modalities. Aptamer development topics range from discussions of basic and advanced versions of Systematic Evolution of Ligands by EXponential Enrichment (SELEX) and SELEX variations involving incorporation of exotic unnatural nucleotides to expand library diversity for even greater aptamer affinity and specificity to improved next generation methods of DNA sequencing, screening and tracking aptamer development throughout the SELEX process and characterization of lead aptamer candidates. Aptamer assay development topics include descriptions of various colorimetric and fluorescent assays in microplates or on membranes including homogeneous beacon and multiplexed Fluorescence Resonance Energy Transfer (FRET) assays. Finally, a discussion of the potential for marketing successful aptamer-based assays or test kits is included.

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DOI: 10.1016/j.biotechadv.2017.01.003  
PMID: 28108354

219: Sikary AK, Mridha AR, Behera C. Sudden death of a child due to pyogenic bacterial myocarditis. *Med Leg J.* 2017 Jun;85(2):105-107. doi: 10.1177/0025817216682187. Epub 2017 Jan 24. PubMed PMID: 27899697.

Bacterial myocarditis is an uncommon condition and only a few fatal cases in adults are reported in the scientific literature. Death from acute bacterial myocarditis in children is extremely rare. We report an unusual case of fatal bacterial myocarditis in a seven-year-old girl, who had a history of cough for a month and fever for two days. She was given symptomatic treatment by a local physician without suspecting her clinical condition. Her condition rapidly deteriorated and she was brought in dead to the hospital. Autopsy revealed pyogenic bacterial myocarditis associated with bilateral lobar pneumonia caused by Gram-positive cocci. Death from bacterial myocarditis can be prevented by early diagnosis and appropriate antibiotics.

DOI: 10.1177/0025817216682187  
PMID: 27899697

220: Singh A, Sen S, Vanathi M, Tandon R. Corneal keloid with cystoid cicatrix:post-small-incision cataract surgery. *Can J Ophthalmol.* 2017 Jun;52(3):e93-e95. doi: 10.1016/j.jcjo.2016.11.013. Epub 2017 Jan 12. PubMed PMID: 28576228.

221: Singh A, Vanathi M, Sahu S, Devi S. Intraoperative OCT assisted descemetopexy with stromal vent incisions and intracameral gas injection for case of non-resolving Descemet's membrane detachment. *BMJ Case Rep.* 2017 Jan 6;2017. pii: bcr2016217268. doi: 10.1136/bcr-2016-217268. PubMed PMID: 28062421.

Descemet's membrane detachment (DMD) though uncommon in the present day scenario of advancing surgical techniques is a significant complication that requires prompt diagnosis and management. A middle-aged man presented to our hospital with poor gain of vision following cataract surgery. There was significant corneal oedema with DMD which was confirmed on anterior segment optical coherence

tomography. We describe a modified continuous intraoperative-guided approach for the management of DMD in cases with oedematous hazy corneas. The aim of this technique is to allow early reattachment of Descemet's membrane in chronic cases where fluid pockets prevent reattachment of the posterior layer of cornea. Our technique involves the use of full thickness stromal vent incisions in the paracentral cornea along with intracameral isoexpansile concentration of gas for the successful settlement of the detached Descemet's membrane.

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DOI: 10.1136/bcr-2016-217268

PMID: 28062421 [Indexed for MEDLINE]

Conflict of interest statement: Conflicts of Interest: None declared.

222: Singh AR, Kharate A, Bhat P, Kokane AM, Bali S, Sahu S, Verma M, Nagar M, Kumar AM. Isoniazid Preventive Therapy among Children Living with Tuberculosis Patients: Is It Working? A Mixed-Method Study from Bhopal, India. *J Trop Pediatr*. 2017 Jan 12. pii: fmw086. doi: 10.1093/tropej/fmw086. [Epub ahead of print] PubMed PMID: 28082666.

**OBJECTIVE:** We assessed uptake of isoniazid preventive therapy (IPT) among child contacts of smear-positive tuberculosis (TB) patients and its implementation challenges from healthcare providers' and parents' perspectives in Bhopal, India. **METHODS:** A mixed-method study design: quantitative phase (review of programme records and house-to-house survey of smear-positive TB patients) followed by qualitative phase (interviews of healthcare providers and parents). **RESULTS:** Of 59 child contacts (<6 years) of 129 index patients, 51 were contacted. Among them, 19 of 51 (37%) were screened for TB and one had TB. Only 11 of 50 (22%) children were started and 10 of 50 (20%) completed IPT. Content analysis of interviews revealed lack of awareness, risk perception among parents, cumbersome screening process, isoniazid stock-outs, inadequate knowledge among healthcare providers and poor programmatic monitoring as main barriers to IPT implementation. **CONCLUSION:** National TB programme should counsel parents, train healthcare providers, simplify screening procedures, ensure regular drug supply and introduce an indicator to strengthen monitoring and uptake of IPT.

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DOI: 10.1093/tropej/fmw086

PMID: 28082666

223: Singh GP, Rath GP. Report on Neurosciences Sessions During the 16th World Congress of Anaesthesiologists (WCA 2016 Hong Kong). *J Neurosurg Anesthesiol*. 2017 Jan 10. doi: 10.1097/ANA.0000000000000405. [Epub ahead of print] PubMed PMID: 28079736.

224: Singh I, Shakya S, Singh RK, Ahmad I, Goyal V, Shukla G, Srivastava MV, Faruq M, Srivastava AK. Iron related hemochromatosis (HFE) gene mutations in Friedreich Ataxia patients. *Parkinsonism Relat Disord*. 2017 Jan;34:71-72. doi: 10.1016/j.parkreldis.2016.10.015. Epub 2016 Oct 19. PubMed PMID: 27814974.

225: Singh K, Shekhar S, Yadav Y, Xess I, Dey S. DS6: anticandidal, antibiofilm peptide against *Candida tropicalis* and exhibit synergy with commercial drug. *J Pept Sci*. 2017 Mar;23(3):228-235. doi: 10.1002/psc.2973. Epub 2017 Jan 25. PubMed PMID: 28120548.

Antifungal peptides have gained interest as therapeutic agents in recent years because of increased multidrug resistance against present antifungal drugs. This study designed, synthesized and characterized antifungal activity of a small

peptide analogue, DS6. This peptide was designed using the template from the N-terminal part of the antifungal protein, *Aspergillus giganteus*. DS6 inhibited *Candida tropicalis* (ATCC 13803), as well as its clinical isolates. DS6 was found to be a fungicidal, killing the fungus very rapidly. DS6 is also non-toxic to human cells. Synergistic interactions of DS6 with amphotericin B and fluconazole were also evident. DS6 is membrane lytic and exhibits antibiofilm activity against *C. tropicalis*. In conclusion, DS6 may have utility as an alternative antifungal therapy for *C. tropicalis*. Copyright © 2017 European Peptide Society and John Wiley & Sons, Ltd.

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DOI: 10.1002/psc.2973

PMID: 28120548 [Indexed for MEDLINE]

226: Singh P, Ananthakrishnan A, Ahuja V. Pivot to Asia: inflammatory bowel disease burden. *Intest Res.* 2017 Jan;15(1):138-141. doi: 10.5217/ir.2017.15.1.138. Epub 2017 Jan 31. PubMed PMID: 28239326; PubMed Central PMCID: PMC5323305.

227: Srivastava AK, Takkar A, Garg A, Faruq M. Clinical behaviour of spinocerebellar ataxia type 12 and intermediate length abnormal CAG repeats in PPP2R2B. *Brain.* 2017 Jan;140(Pt 1):27-36. doi: 10.1093/brain/aww269. Epub 2016 Nov 17. PubMed PMID: 27864267.

Spinocerebellar ataxia type 12 (SCA12) is a rare neurodegenerative disorder caused by CAG repeat expansion in the PPP2R2B gene. Previously, the causal length of CAG repeats ascribed to SCA12 was more than 51; however, a few reports have also described unusual occurrence of CAG repeat length 36-51 repeats among patients of different geographical population, with atypical clinical association. From our systematic search for SCA12 in a genetic screening programme, we have identified a large number of SCA12 cases. In this study, we specifically describe the clinical behaviour of 18 patients who harbour CAG repeats in the range of 43-50 and compare their clinical behaviour with patients carrying typical pathogenic threshold length of 51 CAG repeats. Unsurprisingly, we observed that the clinical characteristics were similar to those of typical SCA12 phenotype, with large variability in the age at onset. Radiologically, we observed a variable degree of cerebro-cerebellar degeneration along with white matter changes that do not correlate with the disease severity. We define a new pathogenic threshold of CAG-43 to be pathogenic for SCA12 diagnosis and also describe the clinical profiles of two biallelic CAG expansion carriers. We also propose that SCA12 might not be that restricted in terms of occurrence in other geographical or ethnic populations, as it was previously presumed to be.

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DOI: 10.1093/brain/aww269

PMID: 27864267 [Indexed for MEDLINE]

228: Srivastava S, Mishra J, Gupta AK, Singh A, Shankar P, Singh S. Laboratory confirmed miltefosine resistant cases of visceral leishmaniasis from India. *Parasit Vectors.* 2017 Jan 31;10(1):49. doi: 10.1186/s13071-017-1969-z. PubMed PMID: 28137296; PubMed Central PMCID: PMC5282768.

**BACKGROUND:** Miltefosine unresponsive and relapse cases of visceral leishmaniasis (VL) are increasingly being reported. However, there has been no laboratory confirmed reports of miltefosine resistance in VL. Here, we report two laboratory confirmed cases of VL from India.

**METHODS:** Two patients with VL were referred to us with suspected VL. The first patient was a native of the VL endemic state of Bihar, but residing in Delhi, a

VL non-endemic area. He was treated with broad-spectrum antibiotics and antipyretics but was unresponsive to treatment. The second patient was from Jharkhand state in eastern India (adjoining Bihar), another endemic state for VL. He was refractory to anti-leishmanial treatment, which included administration of miltefosine. Following investigation, both patients were serologically positive for VL, and blood buffy coat from both patients grew *Leishmania donovani*. The isolates derived from both cases were characterized for their drug susceptibility, genetically characterised, and SNPs typed for LdMT and LdROS gene expression. Both patients were successfully treated with amphotericin B.

RESULTS: The in vitro drug susceptibility assays carried out on both isolates showed good IC50 values to amphotericin B ( $0.1 \pm 0.0004$   $\mu\text{g/ml}$  and  $0.07 \pm 0.0019$   $\mu\text{g/ml}$ ). One isolate was refractory to Sb(III) with an IC50 of  $> 200$   $\mu\text{M}$  while the second isolate was sensitive to Sb(III) with an IC50 of  $36.70 \pm 3.2$   $\mu\text{M}$ . However, in both the isolates, IC50 against miltefosine was more than 10-fold higher ( $> 100$   $\mu\text{M}$ ) than the standard strain DD8 ( $6.8 \pm 0.1181$   $\mu\text{M}$ ). Furthermore, genetic analyses demonstrated single nucleotide polymorphisms (SNPs) (354Tyr $\leftrightarrow$ Phe and 1078Phe $\leftrightarrow$ Tyr) in the LdMT gene of the parasites.

CONCLUSIONS: Here, we document two laboratory confirmed cases of miltefosine resistant VL from India. Our finding highlights the urgent need to establish control measures to prevent the spread of these strains. We also propose that LdMT gene mutation analysis could be used as a molecular marker of miltefosine resistance in *L. donovani*.

DOI: 10.1186/s13071-017-1969-z  
PMCID: PMC5282768  
PMID: 28137296

229: Subramanian A, Aggarwal G, Agarwal D, Lalwani S. Internal Carotid Artery Fibromuscular Dysplasia in a Child: Incidental Postmortem Finding after Head Injury. *J Lab Physicians*. 2017 Jan-Mar;9(1):60-63. doi: 10.4103/0974-2727.187922. PubMed PMID: 28042220; PubMed Central PMCID: PMC5015502.

Fibromuscular dysplasia (FMD) is a rare, segmental, nonatheromatous, and noninflammatory arterial disease of unknown etiology. It predominantly involves renal artery (60-75%) followed by extracranial part of the internal carotid artery and vertebral arteries (25-30%). The disease typically affects middle-aged women and involves intermediate-sized arteries throughout the body. There are rare case reports of extracranial FMD compounding a trauma case. A patient was brought to trauma center emergency with a history of fall from height. There were one previous episode of seizure and two episodes of vomiting. His Glasgow Coma Scale on admission was E1V1M4. Noncontrast computed tomography of the head showed fracture on the right zygomatic, temporal, and parietal bone, with underlying thin subdural hemorrhage. The patient underwent left frontotemporoparietal decompressive craniectomy and lax duraplasty with bone flap in bone bank. On the 1(st) postoperative day, he succumbed to his injuries despite timely surgery and necessary interventions. It was only postmortem when FMD was diagnosed in carotid artery by histopathological examination. On microscopy, intimal changes were seen in the form of expansion of subendothelial loose matrix with mesenchymal cells, thickening and hyalinization of the internal elastic lamina, areas of duplication and disruption of internal elastic lamina. Medial wall changes included thickening of the wall, focal loss of the smooth muscle, and replacement with fibrosis (dysplastic change). This case emphasizes the importance of considering this disease in the differential diagnosis of children and young adults with stroke (which subsequently lead to his fall).

DOI: 10.4103/0974-2727.187922  
PMCID: PMC5015502  
PMID: 28042220

230: Subramanian B, Shastri N, Aziz L, Gopinath R, Karlekar A, Mehta Y, Sharma A, Bapat JS, Jain P, Jayant A, Samra T, Perera A, Agarwal A, Shetty V, Bhatnagar S, Pandya ST, Jain P. ASSIST - Patient satisfaction survey in postoperative pain management from Indian subcontinent. *J Anaesthesiol Clin Pharmacol*. 2017

**INTRODUCTION:** To compare pain scores at rest and ambulation and to assess patient satisfaction between the different modalities of pain management at different time points after surgery.

**SETTINGS AND DESIGN:** The ASSIST (Patient Satisfaction Survey: Pain Management) was an investigator-initiated, prospective, multicenter survey conducted among 1046 postoperative patients from India.

**MATERIAL AND METHODS:** Pain scores, patient's and caregiver's satisfaction toward postoperative pain treatment, and overall pain management at the hospital were captured at three different time points through a specially designed questionnaire. The survey assessed if the presence of acute pain services (APSs) leads to better pain scores and patient satisfaction scores.

**STATISTICAL ANALYSIS:** One-way ANOVA was used to evaluate the statistical significance between different modalities of pain management, and paired t-test was used to compare pain and patient satisfaction scores between the APS and non-APS groups.

**RESULTS:** The results indicated that about 88.4% of patients reported postoperative pain during the first 24 h after surgery. The mean pain score at rest on a scale of 1-10 was  $2.3 \pm 1.8$  during the first 24 h after surgery and  $1.1 \pm 1.5$  at 72 h; the patient satisfaction was 7.9/10. Significant pain relief from all pain treatment was reported by patients in the non-APS group (81.6%) compared with those in the APS (77.8%) group ( $P < 0.0016$ ).

**CONCLUSION:** This investigator-initiated survey from the Indian subcontinent demonstrates that current standards of care in postoperative pain management remain suboptimal and that APS service, wherever it exists, is yet to reach its full potential.

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PMCID: PMC5374829

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**Conflict of interest statement:** Author AK has received honorarium from Smith for rendering advisory services.

231: Talwar GP, Gupta JC, Mustafa AS, Kar HK, Katoch K, Parida SK, Reddi PP, Ahmed N, Saini V, Gupta S. Development of a potent invigorator of immune responses endowed with both preventive and therapeutic properties. *Biologics*. 2017 May 2;11:55-63. doi: 10.2147/BTT.S128308. eCollection 2017. Review. PubMed PMID: 28496303; PubMed Central PMCID: PMC5422320.

This article reviews briefly the making of an immunoprophylactic-cum-immunotherapeutic vaccine against leprosy. The vaccine is based on cultivable, heat-killed atypical mycobacteria, whose gene sequence is now known. It has been named *Mycobacterium indicus pranii*. It has received the approval of the Drug Controller General of India and the US Food and Drug Administration. Besides leprosy, *M. indicus pranii* has found utility in the treatment of category II ("difficult to treat") tuberculosis. It also heals ugly anogenital warts. It has preventive and therapeutic action against SP2/O myelomas. It is proving to be a potent adjuvant for enhancing antibody titers of a recombinant vaccine against human chorionic gonadotropin, with the potential of preventing pregnancy without derangement of ovulation and menstrual regularity in sexually active women.

DOI: 10.2147/BTT.S128308

PMCID: PMC5422320

PMID: 28496303

**Conflict of interest statement:** Disclosure The authors report no conflicts of interest in this work.

232: Talwar S, Keshri VK, Gupta SK, Narula J, Choudhary SK, Airan B. Valved patch



closure of aortopulmonary window. *Asian Cardiovasc Thorac Ann.* 2017 Jan 1;218492317714666. doi: 10.1177/0218492317714666. [Epub ahead of print] PubMed PMID: 28592142.

The case of an 8-year-old boy with an aortopulmonary window who underwent unidirectional valved patch closure of the window is described. The advantages of unidirectional valved patch closure in this setting are discussed.

DOI: 10.1177/0218492317714666  
PMID: 28592142

233: Talwar S, Agarwal P, Choudhary SK, Kothari SS, Juneja R, Saxena A, Airan B. Aortopulmonary window: Morphology, diagnosis, and long-term results. *J Card Surg.* 2017 Feb;32(2):138-144. doi: 10.1111/jocs.12936. Epub 2017 Jan 30. PubMed PMID: 28139013.

**OBJECTIVE:** Aortopulmonary window (APW) is a rare congenital heart defect. We reviewed our experience with this condition over the last two decades.  
**METHODS:** Between September 1993 and December 2013, 62 patients underwent surgery for APW. Depending on the associated lesions, they were divided into two groups: Simple (Group 1) or complex (Group 2). In the complex group, six patients had a ventricular septal defect, five patients had interrupted aortic arch, three patients had tetralogy of Fallot, two patients had double outlet right ventricle, and one patient had the right pulmonary artery arising from the ascending aorta.  
**RESULTS:** Mean age at repair was 21.6±32.02 months (median=6, range 0.1-144 months). By preoperative echocardiographic assessment 27 out of 62 patients had severe pulmonary artery hypertension (52% of the cohort). Patch repair of APW was performed using the sandwich method (transwindow) (n=27; 43.5%), transaortic (n=18; 29%), and transpulmonary artery (n=5; 8.1%) approaches; 10 patients (16.1%) underwent double ligation and two (3.2%) underwent division and suturing. Overall hospital mortality in group 1 was 6.97% (3/43) and in group 2 it was 21% (4/19), p=0.085. Mean hospital stay in group 1 was 6.9±2.4 days (median=7 days) and in group 2 was 12±6.1 days (median=13 days), p=0.0001. Follow-up in group 1 was 1.6-9.8 years (median=6 years); in group 2, it was 1.8-8.9 years (median=6.5 years). There were no late deaths. Two patients needed reintervention for distortion of the right pulmonary artery origin. All patients were in New York Heart Association Class I/II at last follow up.  
**CONCLUSION:** There are multiple acceptable surgical strategies for the treatment of aortopulmonary window. Despite a relatively advanced age and substantial number of patients with severe pulmonary hypertension the outcomes can still be good. Associated anomalies complicate the repair. Patients in the complex group had a protracted hospital course and a higher early mortality but similar late survival.

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DOI: 10.1111/jocs.12936  
PMID: 28139013 [Indexed for MEDLINE]

234: Tandon V, Garg K, Mahapatra AK. An interesting case of wrongly diagnosed optic neuritis. *Asian J Neurosurg.* 2017 Jan-Mar;12(1):103-105. doi: 10.4103/1793-5482.145109. PubMed PMID: 28413548; PubMed Central PMCID: PMC5379779.

Optic neuritis (ON) may rarely mimic optic nerve tumor, index of suspicion should be kept high. A 34-year-old woman presented to a major academic institute with a history of right-sided ocular pain and progressive visual loss in the same eye. Her magnetic resonance imaging showed markedly thickened optic nerve; her workup for inflammatory pathology was negative; she was diagnosed as a case of optic nerve tumor and was planned for surgery. Patient for second opinion came to a tertiary care institute where on proper history taking and evaluation she was diagnosed and treated on the lines of ON and she improved. The diagnosis of ON is a clinical one, it may mimic optic nerve tumor in rare cases.

DOI: 10.4103/1793-5482.145109  
PMCID: PMC5379779  
PMID: 28413548

Conflict of interest statement: There are no conflicts of interest.

235: Tarique M, Saini C, Naqvi RA, Khanna N, Sharma A, Rao DN. IL-12 and IL-23 modulate plasticity of FoxP3(+) regulatory T cells in human Leprosy. *Mol Immunol.* 2017 Mar;83:72-81. doi: 10.1016/j.molimm.2017.01.008. Epub 2017 Jan 19. PubMed PMID: 28110210.

Leprosy is a bacterial disease caused by *M. leprae*. Its clinical spectrum reflects the host's immune response to the *M. leprae* and provide an ideal model to investigate the host pathogen interaction and immunological dysregulation. Tregs are high in leprosy patients and responsible for immune suppression of the host by producing IL-10 and TGF- $\beta$  cytokines. In leprosy, plasticity of Tregs remain unstudied. This is the first study describing the conversion of Tregs into Th1-like and Th17-like cells using in vitro cytokine therapy in leprosy patients. Peripheral blood mononuclear cells from leprosy patients were isolated and stimulated with *M. leprae* antigen (MLCwA), rIL-12 and rIL-23 for 48h. Expression of FoxP3 in CD4(+)CD25(+) Tregs, intracellular cytokines IFN- $\gamma$ , TGF- $\beta$ , IL-10 and IL-17 in Tregs cells were evaluated by flow cytometry (FACS) after stimulation. rIL-12 treatment increases the levels of pStat4 in Tregs and IFN- $\gamma$  production. In the presence of rIL-23, pStat3(+) and IL-17A(+) cells increase. rIL-12 and r-IL-23 treatment downregulated the FoxP3 expression, IL-10 and TGF- $\beta$  production by Tregs and enhances the expression of co-stimulatory molecules (CD80, CD86). In conclusion rIL-12 converts Tregs into IFN- $\gamma$  producing cells through STAT-4 signaling while rIL-23 converts Tregs into IL-17 producing cells through STAT-3 signaling in leprosy patients. This study may helpful to provide a new avenue to overcome the immunosuppression in leprosy patients using in vitro cytokine.

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DOI: 10.1016/j.molimm.2017.01.008  
PMID: 28110210

236: Tarique M, Naqvi RA, Ali R, Khanna N, Rao DN. CD4(+) TCR $\gamma\delta$ (+) FoxP3(+) cells: An unidentified population of immunosuppressive cells towards disease progression leprosy patients. *Exp Dermatol.* 2017 Jan 21. doi: 10.1111/exd.13302. [Epub ahead of print] PubMed PMID: 28109171.

This study, for the first time, reveals the role of *M. leprae*-specific CD4(+) TCR $\gamma\delta$ (+) FoxP3(+) cells in the progression and pathogenesis of leprosy. Co-culture with CD4(+) CD25(-) cells suggested the immunosuppressive nature of CD4(+) TCR $\gamma\delta$ (+) cells in dose-dependent manner. Isolation of CD4(+) TCR $\gamma\delta$ (+) cells from leprosy patients and then culture in presence of *M. leprae* cell wall antigens (MLCwA) along with TGF  $\beta$ , IPP and IL-2 suggested that these cells are *M. leprae* specific. TGF- $\beta$ -mediated SMAD3 signalling was turned out to be major factor towards the expression of FoxP3 in these cells. SMAD3 silencing during induction of these cells barely showed the induction of FoxP3. High density of SMAD3 binding at TGF $\beta$ RII in CD4(+) TCR $\gamma\delta$ (+) FoxP3(+) furthermore suggested the TGF- $\beta$ -directed SMAD3 signalling in these cells. Taken together the above data, we can conclude that CD4(+) TCR $\gamma\delta$ (+) FoxP3(+) cells possess the potential to track the severity of the disease in leprosy patients.

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DOI: 10.1111/exd.13302  
PMID: 28109171

237: Tewari N, Pandey RK, Singh S. Concomitant hypodontia and hyperdontia: A report of two cases. *Natl J Maxillofac Surg.* 2017 Jan-Jun;8(1):75-77. doi:

10.4103/0975-5950.208976. PubMed PMID: 28761281; PubMed Central PMCID: PMC5512414.

"Concomitant hypodontia and hyperdontia" is a very rare dental anomaly of number, having a prevalence rate of 0.002%-3.1%. It describes the simultaneous presence of hypodontia or missing teeth and supernumerary teeth in the same individual. It represents the opposite forces of nature acting simultaneously. Two rare cases of this anomaly involving different jaws and a classification based on the literature review have been presented here.

DOI: 10.4103/0975-5950.208976  
PMCID: PMC5512414  
PMID: 28761281

Conflict of interest statement: There are no conflicts of interest.

238: Thukral A, Sankar MJ. Probiotics for prevention of suspected sepsis in low birthweight infants. *Acta Paediatr.* 2017 Apr;106(4):681. doi: 10.1111/apa.13704. Epub 2017 Jan 31. PubMed PMID: 28145021.

239: Titiyal JS, Kaur M, Sahu S, Sharma N, Sinha R. Real-time assessment of intraoperative vaulting in implantable collamer lens and correlation with postoperative vaulting. *Eur J Ophthalmol.* 2017 Jan 19;27(1):21-25. doi: 10.5301/ejo.5000818. Epub 2016 Jul 12. PubMed PMID: 27405290.

**PURPOSE:** To assess the intraoperative vaulting in patients undergoing implantable collamer lens (ICL) implantation with microscope-integrated intraoperative optical coherence tomography (iOCT) and correlate it with the postoperative vaulting.

**METHODS:** Forty eyes of 22 consecutive patients undergoing ICL implantation were prospectively evaluated. Vaulting was measured intraoperatively using microscope-integrated iOCT. The ICL-lenticular relationship was dynamically assessed throughout the surgery. Postoperative vaulting was measured using anterior segment optical coherence tomography on the first postoperative day and after 1 month and compared with the intraoperative vaulting. Uncorrected and best-corrected Snellen visual acuity, intraocular pressure (IOP), and anterior and posterior segments were assessed in all cases.

**RESULTS:** The mean central vaulting noted intraoperatively was  $558.4 \pm 122.8 \mu\text{m}$ . Postoperative mean vaulting was  $576.0 \pm 131.2 \mu\text{m}$  on day 1 and  $551.1 \pm 122.5 \mu\text{m}$  on day 30. There was a significant correlation between the intraoperative and the postoperative day 1 vaulting (paired samples correlation: 0.969,  $p < 0.001$ ) and day 30 vaulting (paired samples correlation: 0.945,  $p < 0.001$ ). An ICL-lenticular touch was not noted at any time during the surgery. The postoperative course was uneventful and no patient developed raised IOP or lenticular changes by the last follow-up.

**CONCLUSIONS:** Intraoperative vaulting correlates well with postoperative vaulting and can aid in on-table detection of extremes of vaulting and decision-making. It enhances the safety of the surgical procedure by providing a real-time display of the intraoperative manipulations.

DOI: 10.5301/ejo.5000818  
PMID: 27405290 [Indexed for MEDLINE]

240: Tolahunase M, Sagar R, Dada R. Impact of Yoga and Meditation on Cellular Aging in Apparently Healthy Individuals: A Prospective, Open-Label Single-Arm Exploratory Study. *Oxid Med Cell Longev.* 2017;2017:7928981. doi: 10.1155/2017/7928981. Epub 2017 Jan 16. PubMed PMID: 28191278; PubMed Central PMCID: PMC5278216.

This study was designed to explore the impact of Yoga and Meditation based lifestyle intervention (YMLI) on cellular aging in apparently healthy individuals. During this 12-week prospective, open-label, single arm exploratory

study, 96 apparently healthy individuals were enrolled to receive YMLI. The primary endpoints were assessment of the change in levels of cardinal biomarkers of cellular aging in blood from baseline to week 12, which included DNA damage marker 8-hydroxy-2'-deoxyguanosine (8-OH2dG), oxidative stress markers reactive oxygen species (ROS), and total antioxidant capacity (TAC), and telomere attrition markers telomere length and telomerase activity. The secondary endpoints were assessment of metabotropic blood biomarkers associated with cellular aging, which included cortisol,  $\beta$ -endorphin, IL-6, BDNF, and sirtuin-1. After 12 weeks of YMLI, there were significant improvements in both the cardinal biomarkers of cellular aging and the metabotropic biomarkers influencing cellular aging compared to baseline values. The mean levels of 8-OH2dG, ROS, cortisol, and IL-6 were significantly lower and mean levels of TAC, telomerase activity,  $\beta$ -endorphin, BDNF, and sirtuin-1 were significantly increased (all values  $p < 0.05$ ) post-YMLI. The mean level of telomere length was increased but the finding was not significant ( $p = 0.069$ ). YMLI significantly reduced the rate of cellular aging in apparently healthy population.

DOI: 10.1155/2017/7928981

PMCID: PMC5278216

PMID: 28191278 [Indexed for MEDLINE]

Conflict of interest statement: The authors stated that there is no conflict of interests whatsoever regarding the publication of this paper.

241: Tomar GS, Goyal K, Chandran R, Luthra A, Chauhan V, Kumar N. Aneurysmal hemorrhage in a pregnant patient with coarctation of aorta: An anesthetic challenge. *J Clin Anesth.* 2017 Feb;37:176-178. doi: 10.1016/j.jclinane.2016.12.008. Epub 2017 Jan 19. PubMed PMID: 28235521.

A 25years old female patient with pregnancy of 16weeks (G2 P1), diagnosed to have distal anterior cerebral artery aneurysm (DACA) with Hunt & Hess grade I, subarachnoid hemorrhage (SAH) and coexisting atretic type of aortic coarctation posted for aneurysmal clipping under general anesthesia is a challenge to anesthesiologists in perioperative period. Hypertensive surges in a pregnant patient may result in rupture of aneurysms. Mortality in the mothers with CoA has been reported to be in the range of 0 to 9%. Anesthetic management of a pregnancy with CoA and SAH has never been reported.

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DOI: 10.1016/j.jclinane.2016.12.008

PMID: 28235521

242: Tripathy K, Sharma YR. Retinal vascular lesions. *J Paediatr Child Health.* 2017 Jan;53(1):89. doi: 10.1111/jpc.1\_13237. PubMed PMID: 28070944.

243: Tripathy K, Chawla R, Mittal K, Farmania R, Venkatesh P, Gulati S. Ophthalmic examination as a means to diagnose Subacute Sclerosing Panencephalitis: an optical coherence tomography and ultrawide field imaging evaluation. *Eye Vis (Lond).* 2017 Jan 19;4:1. doi: 10.1186/s40662-016-0066-2. eCollection 2017. PubMed PMID: 28116334; PubMed Central PMCID: PMC5244733.

**BACKGROUND:** Subacute sclerosing panencephalitis (SSPE) is a potentially fatal complication of measles. The authors report a case of recurrent myoclonic jerks under investigation, whose ophthalmic examination pointed to the diagnosis. **CASE PRESENTATION:** A 12-year-old boy with recurrent episodes of myoclonic jerks was found to have optic disc pallor and an irregular macular scar with pigmentation in the left eye. The retinal finding proved to be a strong diagnostic clue for SSPE. There was a history of exanthematous fever in childhood. Antibodies against measles were detected in both the cerebrospinal fluid and serum. Retinitis with intraretinal and subretinal hemorrhage in the right eye was noted 6-weeks after the initial presentation.

**CONCLUSION:** The authors describe the importance of ophthalmic evaluation in cases of recurrent myoclonic jerks. Optical coherence tomographic features and ultrawide field imaging characteristics of a case of SSPE are described.

DOI: 10.1186/s40662-016-0066-2

PMCID: PMC5244733

PMID: 28116334

244: Tripathy K, Sharma YR, Chawla R, Basu K, Vohra R, Venkatesh P. Triads in Ophthalmology: A Comprehensive Review. *Semin Ophthalmol.* 2017;32(2):237-250. doi: 10.3109/08820538.2015.1045150. Epub 2015 Jul 6. Review. PubMed PMID: 26148300.

Ophthalmology, like any other clinical science, is constantly evolving. As our knowledge in this field expands, we enumerate and describe classical triads of symptoms or signs with relevance to ophthalmology in this article. Characteristic clinical triads for certain systemic conditions with ocular implications are also discussed.

DOI: 10.3109/08820538.2015.1045150

PMID: 26148300 [Indexed for MEDLINE]

245: Tulsyan S, Tripathi M, Das K, Yadav D, Shamim SA, Damle N, Bal C. Tc-99m Sulfur Colloid Lymphoscintigraphy with Single-photon Emission Computed Tomography/Computed Tomography in a Case of Acquired Vulval Lymphangiomas. *Indian J Nucl Med.* 2017 Jan-Mar;32(1):73-74. doi: 10.4103/0972-3919.198495. PubMed PMID: 28242996; PubMed Central PMCID: PMC5317082.

We describe the lymphoscintigraphy findings of a 25-year-old female patient who was undergoing presurgical workup for lymphangiomas of the vulva. She had a history of treatment for disseminated tuberculosis 6 years back and presented with herpetiform oozing vesicles in the external genitalia. Single-photon emission computed tomography/computed tomography (SPECT/CT) confirmed cutaneous tracer accumulation in the vulval lesions and demonstrated the presence of densely calcified inguinal nodes secondary to healed tuberculosis as the etiology of secondary lymphangioma.

DOI: 10.4103/0972-3919.198495

PMCID: PMC5317082

PMID: 28242996

Conflict of interest statement: There are no conflicts of interest.

246: Vallonthaiel AG, Jain D, Singh V, Kaur K, Madan K, Kumar V, Iyer VK, Sharma MC. c-Myb Overexpression in Cytology Smears of Tracheobronchial and Pulmonary Adenoid Cystic Carcinomas. *Acta Cytol.* 2017;61(1):77-83. doi: 10.1159/000453103. Epub 2016 Dec 15. PubMed PMID: 27974718.

**AIMS:** Adenoid cystic carcinoma (AdCC) is a malignant epithelial neoplasm that occurs rarely in the lower respiratory tract (LRT). AdCC at various sites is associated with the novel fusion transcript MYB-NFIB, along with the overexpression of the Myb protein. The expression of the Myb protein in AdCC of the LRT has not been evaluated much.

**STUDY DESIGN:** Cases of AdCC of the LRT diagnosed on cytology or histology were retrieved from our institutional archives. c-Myb expression was analyzed on immunocytochemistry/immunohistochemistry (ICC/IHC) and was correlated with clinicopathological parameters.

**RESULTS:** Twenty-three samples of AdCC originating from the LRT were included in the study. Four cases were diagnosed on cytology, 3 of which had corresponding histology specimens. The remaining 19 cases had either biopsy or resection. Most of the patients presented with endobronchial mass. The mean age was 49.4 years and a male predominance was seen. ICC and IHC for c-Myb showed positivity in 75 and 59% of the cases, respectively. Western blot was used to validate IHC results.

CONCLUSION: AdCC of the LRT is rare and hence poses diagnostic difficulty. Cytology smears can be utilized for c-Myb ICC. The presence of c-Myb immunopositivity in most cases may possibly make Myb a diagnostic biomarker and a therapeutic target for personalized treatment.

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DOI: 10.1159/000453103

PMID: 27974718 [Indexed for MEDLINE]

247: Venkatesh P, Takkar B. In response to: "Gautam N, Singh R, Agarwal A, et al. Pattern of Pediatric Uveitis at a Tertiary Referral Institute in North India". Ocul Immunol Inflamm. 2017 Jan 11:1. doi: 10.1080/09273948.2016.1269933. [Epub ahead of print] PubMed PMID: 28075200.

248: Ventrapati P, Pathy S, Gandhi AK, Kashyap S. Anaplastic hemangiopericytoma of eyelid: An unusual location. J Cancer Res Ther. 2017 Jan-Mar;13(1):145-147. doi: 10.4103/0973-1482.206240. PubMed PMID: 28508850.

Hemangiopericytomas (HPCs) are rare soft tissue tumors. The eyelid is a very uncommon site for these tumors, and an anaplastic variant of HPC in the eyelid has not been reported before. A 44-year-old male presented with complaints of slowly progressive, painless swelling on the inner aspect of the left upper eyelid for 9 months. He underwent local excision of the swelling and histopathology revealed a WHO Grade III anaplastic HPC. Whole body 18 F-fluorodeoxyglucose positron emission tomography-computed tomography done postoperatively did not show any evidence of local or distant disease. The patient was planned for adjuvant radiotherapy of 60 Gy in 30 fractions over 6 weeks in view of high grade of histopathology and doubtful margins. He is disease free at the time of the last follow-up. To the best of our knowledge, this is the first case of anaplastic HPC of eyelid being reported in English literature.

DOI: 10.4103/0973-1482.206240

PMID: 28508850

249: Verma KK, Bansal A, Bhari N, Sethuraman G. Parthenium Dermatitis Severity Score to Assess Clinical Severity of Disease. Indian J Dermatol. 2017 Jan-Feb;62(1):85-87. doi: 10.4103/0019-5154.198037. PubMed PMID: 28216730; PubMed Central PMCID: PMC5286759.

BACKGROUND: Parthenium dermatitis is the most common type of airborne contact dermatitis in India. It is a chronic disease of a remitting and relapsing course with significant morbidity and distress, but there is no scoring system to assess its severity.

AIM: To design a scoring system for the assessment of clinical severity of disease in Parthenium dermatitis and to use this scoring system in various studies to determine its sensitivity, specificity, and reproducibility.

METHODS AND RESULTS: In our first few studies on Parthenium dermatitis, we designed and used a basic clinical severity scoring system based on itching, morphology of the lesions, and areas involved. However, in subsequent studies, we modified it to the present scoring system as Parthenium dermatitis severity score (PDSS). Our studies showed the high sensitivity of PDSS in characterization of the disease severity at the given point of time, as well as to determine the efficacy of a prescribed treatment modality which was reliable and reproducible.

CONCLUSION: Thus, PDSS may be used by clinicians for appropriate scoring of the clinical severity of Parthenium dermatitis and in monitoring the disease response to therapy.

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PMID: 28216730

Conflict of interest statement: There are no conflicts of interest. What is new? We designed a scoring system to determine clinical severity of the disease in patients of parthenium dermatitis as parthenium dermatitis severity score (PDSS).

250: Vyas V, Jain V. Celiac disease & type 1 diabetes mellitus: Connections & implications. Indian J Med Res. 2017 Jan;145(1):4-6. doi: 10.4103/ijmr.IJMR\_1223\_16. PubMed PMID: 28574008; PubMed Central PMCID: PMC5460572.

251: Yadav A, Kumar A, Swain R, Gupta SK. Five-year study of unidentified/unclaimed and unknown deaths brought for medicolegal autopsy at Premier Hospital in New Delhi, India. Med Sci Law. 2017 Jan;57(1):33-38. doi: 10.1177/0025802416680523. Epub 2016 Nov 23. PubMed PMID: 27872398.

Delhi is the second largest city of the world both in terms of population and area, as well as being the capital of India. Every year, thousands of people from different states throng to the capital in search of a job in order to earn a living. When these people die and their bodies are found without any identifying documentation, it is very difficult for the police to establish their identities. These bodies are labelled as unidentified/unclaimed or unknown, and are sent for usually sent for medicolegal autopsy. Invariably, skeletonised bodies are also recovered, which are also subjected to medicolegal autopsy. Female foeticide is another social problem, and whenever such foetuses are disposed of illegally, they are also grouped under this category and brought for medicolegal autopsy. We undertook a five-year retrospective analysis (for the period 2010-2014) of all such cases brought for medicolegal autopsy at our centre, which caters only for the south and south-east districts of Delhi. A total of 7964 cases were brought for medicolegal autopsy, of which unknown cases accounted for about 16%. About 25-30 foetuses and skeletonised bodies were brought each year that was studied. The manner of death was certified as natural in about 71% of cases, with predominant pathology in the lungs. There was a clear predominance of males over females, with the 31- to 50-year age group accounting for half of all cases. There was an increase in the number of deaths during months of extreme temperatures. The average time between the recovery of a body by the police and the post-mortem was about seven days. These findings raise many questions, including the failure of governmental policies, police investigating agencies and social menace. The creation of a national missing-persons database as well as a DNA databank is needed to aid in the identification of unidentified/unclaimed and unknown bodies.

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PMID: 27872398

252: Yadav DK, Kumar S, Saloni, Singh H, Kim MH, Sharma P, Misra S, Khan F. Molecular docking, QSAR and ADMET studies of withanolide analogs against breast cancer. Drug Des Devel Ther. 2017 Jun 22;11:1859-1870. doi: 10.2147/DDDT.S130601. eCollection 2017. PubMed PMID: 28694686; PubMed Central PMCID: PMC5491705.

Withanolides are a group of pharmacologically active compounds present in most prodigal amounts in roots and leaves of *Withania somnifera* (Indian ginseng), one of the most important medicinal plants of Indian traditional practice of medicine. Withanolides are steroidal lactones (highly oxygenated C-28 phytochemicals) and have been reported to exhibit immunomodulatory, anticancer and other activities. In the present study, a quantitative structure activity relationship (QSAR) model was developed by a forward stepwise multiple linear regression method to predict the activity of withanolide analogs against human breast cancer. The most effective QSAR model for anticancer activity against the SK-Br-3 cell showed the best correlation with activity ( $r(2)=0.93$  and  $rCV(2)=0.90$ ). Similarly, cross-validation regression coefficient ( $rCV(2)=0.85$ ) of the best QSAR model against the MCF7/BUS cells showed a high correlation ( $r(2)=0.91$ ). In particular, compounds CID\_73621, CID\_435144, CID\_301751 and CID\_3372729 have a

marked antiproliferative activity against the MCF7/BUS cells, while 2,3-dihydrowithaferin A-3-beta-O-sulfate, withanolide 5, withanolide A, withaferin A, CID\_10413139, CID\_11294368, CID\_53477765, CID\_135887, CID\_301751 and CID\_3372729 have a high activity against the Sk-Br-3 cells compared to standard drugs 5-fluorouracil (5-FU) and camptothecin. Molecular docking was performed to study the binding conformations and different bonding behaviors, in order to reveal the plausible mechanism of action behind higher accumulation of active withanolide analogs with  $\beta$ -tubulin. The results of the present study may help in the designing of lead compound with improved activity.

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PMID: 28694686

Conflict of interest statement: Disclosure The authors report no conflicts of interest in this work.

253: Yadav MP, Ballal S, Tripathi M, Damle NA, Sahoo RK, Seth A, Bal C. Post-therapeutic dosimetry of <sup>177</sup>Lu-DKFZ-PSMA-617 in the treatment of patients with metastatic castration-resistant prostate cancer. Nucl Med Commun. 2017 Jan;38(1):91-98. PubMed PMID: 27782913.

OBJECTIVE: Lu-DKFZ-PSMA-617, a urea-based compound, binds to the extracellular domain of prostate-specific membrane antigen, thus providing an effective target for the treatment of metastatic castration-resistant prostate cancer (mCRPC). Before its therapeutic use, it is necessary that the radiation dosimetry of this radiopharmaceutical be studied to determine the safe activity that can be administered in patients to prevent haematological, renal and liver toxicity. The present study thus aimed to assess the pharmacokinetics and dosimetry of Lu-DKFZ-PSMA-617 in CRPC patients.

MATERIALS AND METHODS: After obtaining ethical clearance from the institute ethics review board, we enrolled mCRPC patients who were positive on a Glu-NH-CO-NH-Lys-(Ahx)-[Ga(HBED-CC)] PET/CT scan. For kidney protection, a cocktail of lysine and arginine diluted in 2 litres of normal saline was infused, starting from 30 to 60min before Lu-DKFZ-PSMA-617 infusion. The mean administered activity in the overall population was 2.52±1.3GBq. For the purpose of dosimetry, each patient underwent nine planar whole-body scans along with blood and urine sample collection at 0.5, 3.5, 24, 48, 72, 96, 120, 144 and 168h, respectively. SPECT/CT was performed to derive the volume of salivary glands (parotid and submandibular glands) and tumour. Dosimetric evaluation was carried out using the OLINDA/EXM 1.0 software.

RESULTS: A total of 26 mCRPC patients with a mean age of 66.30±9.95 years (range: 38-81 years) were recruited. Normal physiological uptake was observed in all the patients in the lacrimal glands, salivary glands (parotid glands and submandibular glands), liver, spleen, kidneys, intestines and urinary bladder. Organs with the highest absorbed doses were the salivary glands, followed by the kidneys, receiving 1.24±0.26 and 0.99±0.31mGy/MBq, respectively. The mean absorbed doses to the liver, urinary bladder and red marrow were 0.36±0.10, 0.243±0.09 and 0.048±0.05mGy/MBq, respectively. The mean whole-body dose was 0.016±0.003mGy/MBq.

CONCLUSION: Lu-DKFZ-PSMA-617 therapy is a safe option in the treatment of mCRPC patients.

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254: Yadav MP, Ballal S, Tripathi M, Bal C. Reply to Rahbar K et al. Eur J Nucl Med Mol Imaging. 2017 Jan;44(1):168-169. Epub 2016 Oct 1. PubMed PMID: 27695908.

255: Yadav MP, Ballal S, Tripathi M, Damle NA, Sahoo RK, Seth A, Bal C. (177)Lu-DKFZ-PSMA-617 therapy in metastatic castration resistant prostate cancer: safety, efficacy, and quality of life assessment. Eur J Nucl Med Mol Imaging.



**PURPOSE:** The purpose of this study was to evaluate the efficacy and safety of a novel theranostic agent, (177)Lu-DKFZ-PSMA-617 therapy in metastatic castration resistant prostate cancer (mCRPC).

**METHODS:** Thirty-one mCRPC patients with progressive disease despite second-line hormonal therapy and/or docetaxel chemotherapy were recruited for the study. All patients underwent diagnostic (68)Ga-PSMA-HBED-CCPET/CT, prior to inclusion for therapy. Included patients then underwent quarterly (177)Lu-DKFZ-PSMA-617 therapy. Hematological, kidney function, liver function tests, and serum PSA levels were recorded before and after therapy at 2 weeks, 4 weeks, and 3 month intervals. Biochemical response was assessed with trend in serum PSA levels. Metabolic response was assessed by PERCIST 1 criteria. Clinical response was assessed by visual analogue score (VASmax) analgesic score (AS), Karanofsky performance status (KPS), and toxicity and response criteria of the Eastern Cooperative Oncology Group (ECOG) criteria.

**RESULTS:** The mean age of patients was 65.93±9.77 years (range: 38-81 years). The mean activity administered in the 31 patients was 5069±1845 MBq ranging from one to four cycles. There was a decline in the mean serum PSA levels from the baseline (baseline: 275 ng/mL, post 1st cycle therapy: 141.75 ng/mL). Based on biochemical response criteria 2/31, 20/31, 3/31, and 6/31 had complete response (CR), partial response (PR), stable disease (SD), and progressive disease (PD), respectively. Metabolic response revealed 2/6 patients with CR, and the remaining 3/6 patients with PR and 1/6 patients with SD. The mean VASmax score decreased from 7.5 to 3. The mean analgesic score decreased from 2.5 to 1.8 after therapy. The mean KPS score improved from 50.32 to 65.42 after therapies. The mean ECOG performance status improved from 2.54 to 1.78 after therapy. Two patients experienced grade I and grade II hemoglobin toxicity each. None of the patients experienced nephrotoxicity or hepatotoxicity.

**CONCLUSION:** (177)Lu-DKFZ-PSMA-617 radionuclide therapy is a safe and effective approach in the treatment of mCRPC patients.

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PMID: 27506431 [Indexed for MEDLINE]

256: Yadav P, Mirdha BR, Makharia GK, Chaudhry R. Multilocus sequence typing of *Cryptosporidium hominis* from northern India. *Indian J Med Res.* 2017 Jan;145(1):102-111. doi: 10.4103/ijmr.IJMR\_1064\_14. PubMed PMID: 28574022; PubMed Central PMCID: PMC5460555.

**BACKGROUND & OBJECTIVES:** Human cryptosporidiosis is endemic worldwide, and at least eight species have been reported in humans; the most common being *Cryptosporidium hominis* and *C. parvum*. Detailed understanding of the epidemiology of *Cryptosporidium* is increasingly facilitated using standardized universal technique for species differentiation and subtyping. In this study micro- and minisatellite targets in chromosome 6 were used to assess genetic diversity of *C. hominis* by sequence length polymorphisms along with single nucleotide polymorphisms (SNPs).

**METHODS:** A total of 84 *Cryptosporidium* positive stool specimens were subjected to speciation and genotyping using small subunit (SSU) ribosomal RNA (rRNA) as the target gene. Genetic heterogeneity amongst *C. hominis* isolates was assessed by sequencing minisatellites, microsatellites and polymorphic markers including genes encoding the 60 kDa glycoprotein (GP60), a 47 kDa protein (CP47), a mucin-like protein (Mucin-1), a serine repeat antigen (MSC6-7) and a 56 kDa transmembrane protein (CP56).

**RESULTS:** Of the 84 *Cryptosporidium* positive stool specimens, 77 (92%) were positive by SSU rRNA gene polymerase chain reaction (PCR) assay. Of these 77 isolates, 54 were identified as *C. hominis* and 23 as *C. parvum*. Of all the loci studied by multilocus sequence typing (MLST), GP60 gene could reveal the highest genetic diversity. Population substructure analysis of *C. hominis* performed by combined sequence length and nucleotide polymorphism showed nine multilocus subtypes, all of which were distinct groups in the study population.

**INTERPRETATION & CONCLUSIONS:** MLST, a powerful discriminatory test, demonstrated

both variations and distribution pattern of *Cryptosporidium* species and its subtypes.

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PMCID: PMC5460555

PMID: 28574022

257: Zafar A, Singh S, Naseem I. Cytotoxic activity of soy phytoestrogen coumestrol against human breast cancer MCF-7 cells: Insights into the molecular mechanism. *Food Chem Toxicol.* 2017 Jan;99:149-161. doi: 10.1016/j.fct.2016.11.034. Epub 2016 Nov 30. PubMed PMID: 27913286.

Coumestrol is a phytoestrogen present in soybean products and recognized as potential cancer therapeutic agent against breast cancer. However, the clear molecular mechanism of anticancer-activity of coumestrol in breast carcinoma has not been reported. It is well established that copper levels are elevated in different malignancies. Therefore, the objective of this study was to investigate the copper-dependent cytotoxic action of coumestrol in human breast cancer MCF-7 cells. Results showed that coumestrol inhibited proliferation and induced apoptosis in MCF-7 cells, which was prevented by copper chelator neocuproine and ROS scavengers. Coumestrol treatment induced ROS generation coupled to DNA fragmentation, up-regulation of p53/p21, cell cycle arrest at G1/S phase, mitochondrial membrane depolarization and caspases 9/3 activation. All these effects were suppressed by ROS scavengers and neocuproine. These results suggest that coumestrol targets elevated copper for redox cycling to generate ROS leading to DNA fragmentation. DNA damage leads to p53 up-regulation which directs the cell cycle arrest at G1/S phase and promotes caspase-dependent apoptosis of MCF-7 cells. In conclusion, copper targeted ROS-mediated p53-dependent mechanism better explains the cytotoxic action of coumestrol in MCF-7 cells. Thus, targeting elevated copper levels might be a potential therapeutic strategy for selective cytotoxic action against malignant cells.

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258: Zakaria MK, Sarkar DP, Chattopadhyay P. Induction of Transcriptional Gene Silencing by Expression of shRNA Directed to c-Myc P2 Promoter in Hepatocellular Carcinoma by Tissue-Specific Virosomal Delivery. *Methods Mol Biol.* 2017;1543:245-257. doi: 10.1007/978-1-4939-6716-2\_14. PubMed PMID: 28349432.

Double-stranded RNA-mediated transcriptional gene silencing (TGS) has shown promising results over posttranscriptional gene silencing (PTGS) due to its long term and heritable nature. Various research groups have shed light on different mechanisms by which TGS operate. Some of these include histone modification, DNA methylation, or restriction of RNA polymerase binding onto the target gene's promoter. This serves as an added advantage since permanent c-Myc inactivation is critical for suppressing hepatocellular carcinoma (HCC). Inability to target cancer cells specifically, without affecting the normal cells, has been one of the biggest drawbacks of an effective cancer therapy. Therefore, we aimed to overcome this barrier by first generating tumor-specific transcriptional units expressing TGS inducing shRNAs against c-Myc's P2 promoter only in neoplastic liver cells. Secondly, we coupled this TGS inducing system with Sendai fusion virosomes for liver-specific delivery to minimize nonspecific side effects in vitro.

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